

ALMANAC

XXIV

LUNAR ECLIPSES IN

BCE

The almanac XXIV contains a list of lunar eclipses from the 3rd millennium BCE to the 1st millennium BCE, from the 30th century BCE to the 1st century BCE.

3RD MILLENNIUM BCE

In the 3rd millennium BCE the total number of lunar eclipses was 2 377 lunar eclipses: 848 penumbral lunar eclipses, 805 partial lunar eclipses, 724 total lunar eclipses (387 central total lunar eclipses, 337 non-central total lunar eclipses).

30TH CENTURY BCE

In the 30th century BCE the total number of lunar eclipses was 249 lunar eclipses: 89 penumbral lunar eclipses, 99 partial lunar eclipses, 61 total lunar eclipses (50 central total lunar eclipses, 11 non-central total lunar eclipses).

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG
GREATEST S															
-2999 Mar 16	06:15:57	73898	8970	-61828	-35	T+	pp	0.1832	2.5259	1.5178	342.6	219.7	94.6	12N	142W
-2999 Sep 09	22:18:50	73883	8967	-61822	-30	T-	pp	-0.0958	2.7125	1.6523	359.7	227.0	101.0	14S	25W
-2998 Mar 05	19:13:48	73868	8964	-61816	-25	P	a-	-0.5670	1.7983	0.8366	301.4	178.2	-	15N	24E
-2998 Aug 29	23:57:40	73853	8961	-61810	-20	P	t-	0.6232	1.7620	0.6679	346.9	182.4	-	17S	51W
-2997 Jan 25	03:20:32	73840	8958	-61805	-53	N	-a	1.3114	0.4359	-0.5327	172.0	-	-	25N	98W

-2997	Feb 23	11:51:05	73838	8958	-61804	-15	N	a-	-1.2638	0.5139	-0.4361	182.7	-	-	17N	135E
-2997	Jul 20	08:38:32	73826	8955	-61799	-48	Ne	t-	-1.5522	0.0323	-1.0118	53.6	-	-	25S	177E
-2997	Aug 18	23:44:58	73823	8955	-61798	-10	N	t-	1.3109	0.4919	-0.5858	206.8	-	-	20S	48W
-2996	Jan 14	16:24:35	73811	8952	-61793	-43	P	a-	0.6497	1.6756	0.6565	312.6	169.3	-	25N	64E
-2996	Jul 08	17:59:56	73796	8949	-61787	-38	P	a-	-0.7479	1.4784	0.4930	292.5	147.9	-	24S	35E
-2995	Jan 02	22:26:36	73781	8946	-61781	-33	T-	pp	-0.0619	2.7832	1.7061	368.4	231.2	103.3	24N	28W
-2995	Jun 28	09:18:58	73766	8943	-61775	-28	T+	pp	0.0050	2.8225	1.8747	318.5	211.9	99.4	22S	165E
-2995	Dec 22	22:22:01	73751	8940	-61769	-23	P	t-	-0.7649	1.5054	0.4047	331.7	148.4	-	22N	28W
-2994	Jun 18	02:18:30	73736	8937	-61763	-18	P	a-	0.7367	1.4825	0.5298	282.5	148.4	-	20S	90W
-2994	Nov 12	07:07:51	73724	8934	-61758	-51	N	-h	1.4970	0.1347	-0.9116	106.2	-	-	12N	161W
-2994	Dec 11	23:03:34	73722	8934	-61757	-13	N	h-	-1.4171	0.2943	-0.7779	160.2	-	-	19N	39W
-2993	May 09	05:52:39	73709	8931	-61752	-46	N	t-	-1.1215	0.8109	-0.2102	245.9	-	-	10S	143W
-2993	Jun 07	16:19:35	73707	8931	-61751	-8	Nb	t-	1.5335	0.0421	-0.9535	58.3	-	-	17S	59E
-2993	Nov 01	18:00:14	73694	8928	-61746	-41	P	a-	0.7589	1.4617	0.4691	286.4	142.0	-	7N	36E
-2992	Apr 27	09:50:44	73679	8925	-61740	-36	T	t-	-0.3759	2.2000	1.1372	361.6	218.0	58.8	5S	159E
-2992	Oct 21	09:11:07	73665	8922	-61734	-31	T+	-p	0.0851	2.6878	1.7157	319.2	209.7	96.4	2N	169E
-2991	Apr 16	10:29:31	73650	8919	-61728	-26	T	t-	0.3900	2.1731	1.1124	359.4	216.0	53.5	0N	151E
-2991	Oct 11	00:03:00	73635	8916	-61722	-21	P	a-	-0.5936	1.7675	0.7701	305.7	174.4	-	3S	54W
-2990	Mar 07	04:41:16	73622	8914	-61717	-54	Ne	-h	-1.5281	0.0515	-0.9430	63.9	-	-	13N	119W
-2990	Apr 05	15:10:06	73620	8913	-61716	-16	N	h-	1.1307	0.7917	-0.2250	241.6	-	-	5N	82E
-2990	Aug 31	18:15:05	73608	8911	-61711	-49	Ne	-h	1.5727	0.0087	-1.0635	28.4	-	-	16S	34E
-2990	Sep 30	10:04:52	73605	8910	-61710	-11	N	h-	-1.3381	0.4289	-0.6227	186.3	-	-	8S	157E
-2989	Feb 24	19:01:53	73593	8908	-61705	-44	P	a-	-0.7525	1.4549	0.4994	279.9	144.2	-	17N	26E
-2989	Aug 20	18:41:00	73578	8905	-61699	-39	P	t-	0.9069	1.2409	0.1481	309.7	93.3	-	19S	27E
-2988	Feb 14	11:46:45	73563	8902	-61693	-34	T-	pp	-0.0381	2.7663	1.8095	320.0	211.9	98.9	20N	135E
-2988	Aug 08	19:28:44	73548	8899	-61687	-29	T+	pp	0.1777	2.5632	1.5011	362.5	227.0	96.0	22S	14E
-2987	Feb 03	02:13:14	73533	8895	-61681	-24	P	a-	0.7030	1.5681	0.5682	301.1	157.9	-	23N	82W
-2987	Jul 29	02:55:08	73519	8892	-61675	-19	P	a-	-0.5604	1.8314	0.8281	316.8	183.5	-	24S	98W
-2987	Dec 24	17:37:17	73506	8890	-61670	-52	N	t-	-1.4468	0.2491	-0.8417	151.7	-	-	21N	43E
-2986	Jan 23	10:14:57	73504	8889	-61669	-14	N	t-	1.4881	0.1575	-0.9020	118.2	-	-	25N	156E
-2986	Jun 19	09:32:31	73491	8887	-61664	-47	N	a-	1.2835	0.4742	-0.4690	175.9	-	-	20S	160E
-2986	Jul 18	17:02:16	73489	8886	-61663	-9	N	a-	-1.2449	0.5524	-0.4050	190.3	-	-	25S	49E
-2986	Dec 13	16:50:39	73476	8884	-61658	-42	P	t-	-0.7777	1.4810	0.3820	328.6	144.2	-	20N	53E
-2985	Jun 09	02:14:47	73462	8881	-61652	-37	P	a-	0.5763	1.7809	0.8199	302.0	177.8	-	18S	91W
-2985	Dec 02	19:01:10	73447	8878	-61646	-32	T-	pp	-0.0660	2.7661	1.7080	357.1	225.9	101.5	17N	20E
-2984	May 28	14:42:44	73432	8875	-61640	-27	T-	pp	-0.1887	2.5169	1.5066	345.0	220.9	94.6	16S	82E
-2984	Nov 21	04:25:00	73417	8872	-61634	-22	P	a-	0.6228	1.7166	0.7140	304.9	170.2	-	15N	122W
-2983	May 17	20:04:02	73402	8869	-61628	-17	P	t-	-0.9941	1.0628	0.0057	286.4	18.5	-	13S	2E
-2983	Oct 12	08:15:08	73390	8866	-61623	-50	N	a-	-1.4202	0.2392	-0.7350	128.8	-	-	3S	177W
-2983	Nov 10	19:00:51	73388	8866	-61622	-12	N	a-	1.2552	0.5412	-0.4317	187.8	-	-	11N	19E

-2982	Apr 07	06:43:50	73375	8863	-61617	-45	N	-t	1.0607	0.9381	-0.1141	270.6	-	-	4N	152W
-2982	Oct 01	22:13:52	73360	8860	-61611	-40	P	-a	-0.7959	1.4030	0.3924	289.7	134.1	-	7S	27W
-2981	Mar 27	13:19:27	73345	8857	-61605	-35	T+	pp	0.2534	2.3942	1.3919	338.6	215.7	86.4	8N	109E
-2981	Sep 21	06:18:18	73331	8854	-61599	-30	T-	pp	-0.1106	2.6883	1.6224	361.2	227.2	100.2	11S	148W
-2980	Mar 16	02:46:43	73316	8851	-61593	-25	P	a-	-0.5046	1.9104	0.9533	305.1	186.1	-	11N	92W
-2980	Sep 09	07:30:06	73301	8848	-61587	-20	P	t-	0.5982	1.8099	0.7118	350.1	187.1	-	14S	166W
-2979	Feb 04	11:25:26	73289	8845	-61582	-53	N	-a	1.3495	0.3654	-0.6020	158.8	-	-	23N	139E
-2979	Mar 05	19:36:48	73286	8845	-61581	-15	N	a-	-1.2115	0.6088	-0.3390	197.1	-	-	14N	16E
-2979	Aug 29	07:16:19	73271	8842	-61575	-10	N	t-	1.2775	0.5539	-0.5251	217.8	-	-	17S	163W
-2978	Jan 25	00:19:14	73259	8839	-61570	-43	P	-a	0.6825	1.6154	0.5963	310.2	163.5	-	24N	56W
-2978	Jul 20	01:35:01	73244	8836	-61564	-38	P	-a	-0.7984	1.3857	0.4004	285.4	134.7	-	25S	80W
-2977	Jan 14	06:05:02	73229	8833	-61558	-33	T-	pp	-0.0354	2.8313	1.7552	369.3	232.0	104.3	24N	144W
-2977	Jul 09	17:00:32	73215	8830	-61552	-28	T-	pp	-0.0530	2.7352	1.7858	318.2	211.3	98.6	24S	48E
-2976	Jan 03	05:59:16	73200	8827	-61546	-23	P	t-	-0.7443	1.5413	0.4441	333.8	154.5	-	23N	143W
-2976	Jun 28	09:49:17	73185	8824	-61540	-18	P	a-	0.6749	1.5979	0.6409	290.0	160.7	-	22S	155E
-2976	Nov 22	15:35:59	73173	8822	-61535	-51	N	-h	1.4906	0.1443	-0.8980	109.4	-	-	16N	69E
-2976	Dec 22	07:05:34	73170	8821	-61534	-13	N	h-	-1.4039	0.3159	-0.7510	164.9	-	-	21N	161W
-2975	May 19	12:32:37	73158	8819	-61529	-46	N	-t	-1.2059	0.6580	-0.3672	225.9	-	-	14S	114E
-2975	Jun 17	23:22:38	73155	8818	-61528	-8	N	t-	1.4695	0.1623	-0.8389	113.7	-	-	19S	49W
-2975	Nov 12	02:49:11	73143	8816	-61523	-41	P	-a	0.7539	1.4698	0.4796	286.2	143.1	-	11N	99W
-2974	May 08	16:06:06	73128	8813	-61517	-36	P	-t	-0.4652	2.0367	0.9726	356.4	208.3	-	9S	62E
-2974	Nov 01	18:04:57	73113	8810	-61511	-31	T+	-p	0.0830	2.6920	1.7192	319.4	209.8	96.5	7N	33E
-2973	Apr 27	16:49:23	73098	8807	-61505	-26	T	t-	0.3028	2.3317	1.2737	363.1	223.3	78.9	4S	52E
-2973	Oct 22	08:45:29	73084	8804	-61499	-21	P	a-	-0.5957	1.7656	0.7645	306.6	174.3	-	2N	173E
-2972	Apr 15	22:00:33	73069	8801	-61493	-16	N	h-	1.0515	0.9345	-0.0773	257.5	-	-	1N	24W
-2972	Oct 10	18:20:49	73054	8798	-61487	-11	N	h-	-1.3377	0.4320	-0.6246	187.7	-	-	4S	30E
-2971	Mar 07	02:45:01	73042	8795	-61482	-44	P	-a	-0.8056	1.3552	0.4038	272.7	131.4	-	14N	92W
-2971	Aug 31	02:04:36	73027	8792	-61476	-39	P	-t	0.9378	1.1858	0.0896	304.8	73.2	-	17S	86W
-2970	Feb 24	19:37:12	73012	8789	-61470	-34	T-	-p	-0.0878	2.6742	1.7190	319.9	211.6	97.8	18N	15E
-2970	Aug 20	02:58:17	72997	8786	-61464	-29	T+	pp	0.2140	2.4971	1.4342	360.5	224.7	91.6	20S	100W
-2969	Feb 14	09:56:07	72982	8783	-61458	-24	P	a-	0.6616	1.6440	0.6440	306.5	166.6	-	21N	160E
-2969	Aug 09	10:42:33	72968	8780	-61452	-19	P	a-	-0.5187	1.9079	0.9047	319.1	188.6	-	23S	144E
-2968	Jan 05	01:17:01	72955	8777	-61447	-52	N	-t	-1.4706	0.2048	-0.8846	138.3	-	-	22N	73W
-2968	Feb 03	17:40:17	72953	8777	-61446	-14	N	t-	1.4529	0.2220	-0.8370	139.9	-	-	24N	43E
-2968	Jun 29	17:09:30	72941	8774	-61441	-47	N	-a	1.3437	0.3650	-0.5804	156.0	-	-	21S	44E
-2968	Jul 29	00:57:25	72938	8774	-61440	-9	N	a-	-1.1981	0.6389	-0.3200	202.6	-	-	25S	71W
-2968	Dec 24	00:37:13	72926	8771	-61435	-42	P	-t	-0.7917	1.4534	0.3583	325.8	140.0	-	22N	65W
-2967	Jun 19	09:35:37	72911	8768	-61429	-37	P	-a	0.6470	1.6534	0.6879	296.8	166.9	-	20S	157E
-2967	Dec 13	03:15:30	72896	8765	-61423	-32	T-	pp	-0.0717	2.7532	1.7002	355.4	225.3	101.3	20N	106W
-2966	Jun 08	21:33:59	72882	8762	-61417	-27	T-	pp	-0.1115	2.6612	1.6456	348.5	224.2	100.6	19S	23W

-2966	Dec 02	13:05:58	72867	8759	-61411	-22	P	a-	0.6203	1.7190	0.7205	304.0	170.4	-	18N	106E
-2965	May 29	02:24:35	72852	8756	-61405	-17	P	t-	-0.9097	1.2193	0.1591	302.5	95.7	-	16S	96W
-2965	Oct 23	17:06:43	72840	8754	-61400	-50	N	a-	-1.4211	0.2385	-0.7377	128.8	-	-	1N	47E
-2965	Nov 22	03:54:42	72837	8753	-61399	-12	N	a-	1.2562	0.5388	-0.4331	187.3	-	-	15N	117W
-2964	Apr 17	13:12:14	72825	8751	-61394	-45	N	t-	1.1405	0.7897	-0.2584	251.1	-	-	0N	107E
-2964	Oct 12	06:47:39	72810	8748	-61388	-40	P	a-	-0.8011	1.3959	0.3806	290.4	132.7	-	2S	158W
-2963	Apr 06	20:21:01	72795	8745	-61382	-35	T	p-	0.3261	2.2581	1.2612	333.7	210.4	73.7	4N	0E
-2963	Oct 01	14:22:45	72781	8742	-61376	-30	T-	pp	-0.1205	2.6728	1.6016	362.6	227.3	99.6	6S	88E
-2962	Mar 27	10:14:19	72766	8739	-61370	-25	T	a-	-0.4371	2.0322	1.0792	308.6	193.2	41.4	7N	153E
-2962	Sep 20	15:10:26	72751	8736	-61364	-20	P	t-	0.5796	1.8457	0.7441	352.5	190.3	-	10S	76E
-2961	Feb 15	19:21:24	72739	8733	-61359	-53	N	a-	1.3946	0.2823	-0.6842	140.9	-	-	21N	18E
-2961	Mar 17	03:15:59	72736	8733	-61358	-15	N	a-	-1.1539	0.7137	-0.2326	211.3	-	-	10N	102W
-2961	Sep 09	14:57:15	72722	8730	-61352	-10	N	t-	1.2510	0.6030	-0.4769	225.7	-	-	14S	80E
-2960	Feb 05	08:03:46	72709	8727	-61347	-43	P	a-	0.7227	1.5416	0.5224	306.8	155.4	-	23N	173W
-2960	Jul 30	09:20:29	72694	8724	-61341	-38	P	a-	-0.8411	1.3073	0.3219	278.8	121.9	-	24S	162E
-2959	Jan 24	13:32:55	72680	8721	-61335	-33	T-	pp	-0.0010	2.8939	1.8190	370.1	232.7	104.9	24N	103E
-2959	Jul 20	00:49:13	72665	8718	-61329	-28	T-	pp	-0.1052	2.6405	1.6890	317.6	210.3	96.7	24S	71W
-2958	Jan 13	13:27:18	72650	8715	-61323	-23	P	t-	-0.7159	1.5915	0.4984	336.6	162.1	-	23N	103E
-2958	Jul 09	17:26:02	72635	8712	-61317	-18	P	a-	0.6186	1.7036	0.7420	296.5	170.4	-	23S	39E
-2958	Dec 04	00:00:23	72623	8710	-61312	-51	N	-h	1.4880	0.1466	-0.8909	109.8	-	-	19N	59W
-2957	Jan 02	14:59:05	72621	8709	-61311	-13	N	h-	-1.3827	0.3516	-0.7093	172.7	-	-	22N	79E
-2957	May 30	19:13:12	72608	8707	-61306	-46	N	t-	-1.2885	0.5089	-0.5209	202.5	-	-	17S	11E
-2957	Jun 29	06:30:54	72606	8706	-61305	-8	N	t-	1.4103	0.2740	-0.7332	147.0	-	-	21S	158W
-2957	Nov 23	11:36:51	72594	8704	-61300	-41	P	a-	0.7507	1.4741	0.4868	285.7	143.7	-	15N	127E
-2956	May 18	22:21:13	72579	8701	-61294	-36	P	t-	-0.5541	1.8745	0.8088	349.8	195.9	-	13S	35W
-2956	Nov 12	02:59:20	72564	8698	-61288	-31	T+	p-	0.0804	2.6968	1.7238	319.6	209.9	96.6	11N	104W
-2955	May 07	23:08:43	72549	8695	-61282	-26	T+	pp	0.2142	2.4931	1.4375	365.5	228.5	93.5	8S	46W
-2955	Nov 01	17:30:21	72535	8692	-61276	-21	P	a-	-0.6006	1.7580	0.7539	307.3	173.9	-	6N	39E
-2954	Apr 27	04:48:17	72520	8689	-61270	-16	P	h-	0.9688	1.0841	0.0768	271.7	64.0	-	3S	130W
-2954	Oct 22	02:41:15	72505	8686	-61264	-11	N	h-	-1.3419	0.4266	-0.6343	187.3	-	-	1N	98W
-2953	Mar 18	10:21:27	72493	8683	-61259	-44	P	a-	-0.8646	1.2452	0.2974	264.2	114.4	-	10N	151E
-2953	Sep 11	09:37:41	72478	8680	-61253	-39	P	t-	0.9610	1.1447	0.0457	301.0	52.6	-	13S	159E
-2952	Mar 07	03:20:55	72463	8677	-61247	-34	T-	p-	-0.1428	2.5728	1.6186	319.4	210.7	95.1	14N	104W
-2952	Aug 30	10:38:37	72449	8674	-61241	-29	T+	pp	0.2421	2.4457	1.3823	358.6	222.5	87.5	17S	143E
-2951	Feb 24	17:30:23	72434	8671	-61235	-24	P	a-	0.6140	1.7315	0.7313	312.2	175.6	-	18N	44E
-2951	Aug 19	18:38:54	72419	8668	-61229	-19	P	a-	-0.4836	1.9724	0.9690	320.7	192.3	-	21S	23E
-2950	Jan 15	08:48:29	72407	8666	-61224	-52	N	t-	-1.5001	0.1497	-0.9378	118.9	-	-	23N	172E
-2950	Feb 14	00:55:38	72404	8665	-61223	-14	N	t-	1.4103	0.2998	-0.7585	161.9	-	-	22N	67W
-2950	Jul 11	00:52:23	72392	8663	-61218	-47	N	a-	1.3988	0.2653	-0.6828	134.3	-	-	22S	73W
-2950	Aug 09	09:00:48	72390	8662	-61217	-9	N	a-	-1.1581	0.7132	-0.2475	212.3	-	-	24S	167E

-2949	Jan 04	08:15:53	72377	8660	-61212	-42	P	-t	-0.8121	1.4135	0.3231	321.9	133.4	-	23N	179E
-2949	Jun 30	17:02:08	72363	8657	-61206	-37	P	-a	0.7120	1.5367	0.5661	291.4	154.8	-	22S	43E
-2949	Dec 24	11:24:04	72348	8654	-61200	-32	T-	pp	-0.0825	2.7305	1.6832	353.6	224.6	100.8	22N	131E
-2948	Jun 19	04:28:43	72333	8651	-61194	-27	T-	pp	-0.0383	2.7984	1.7773	351.1	226.0	103.4	21S	129W
-2948	Dec 12	21:42:24	72318	8648	-61188	-22	P	a-	0.6138	1.7288	0.7346	303.4	171.3	-	21N	25W
-2947	Jun 08	08:48:03	72304	8645	-61182	-17	P	t-	-0.8280	1.3709	0.3072	316.2	130.4	-	19S	166E
-2947	Nov 03	01:59:12	72291	8642	-61177	-50	N	-a	-1.4216	0.2384	-0.7393	129.0	-	-	6N	89W
-2947	Dec 02	12:44:37	72289	8642	-61176	-12	N	a-	1.2542	0.5419	-0.4285	187.7	-	-	19N	109E
-2946	Apr 28	19:38:34	72277	8639	-61171	-45	N	-t	1.2223	0.6377	-0.4069	228.3	-	-	4S	7E
-2946	May 28	09:22:33	72274	8639	-61170	-7	Nb	t-	-1.5740	0.0020	-1.0614	13.7	-	-	17S	157E
-2946	Oct 23	15:24:26	72262	8636	-61165	-40	P	-a	-0.8032	1.3939	0.3746	291.4	132.1	-	2N	70E
-2945	Apr 18	03:20:07	72247	8633	-61159	-35	T	-t	0.4020	2.1164	1.1243	328.1	203.4	53.1	0S	108W
-2945	Oct 12	22:31:32	72233	8630	-61153	-30	T-	pp	-0.1262	2.6647	1.5889	364.0	227.6	99.2	2S	37W
-2944	Apr 06	17:38:08	72218	8627	-61147	-25	T	a-	-0.3658	2.1612	1.2117	311.7	199.2	65.0	3N	38E
-2944	Sep 30	22:58:52	72203	8624	-61141	-20	P	t-	0.5678	1.8689	0.7644	354.1	192.2	-	6S	43W
-2943	Feb 26	03:07:32	72191	8622	-61136	-53	N	-a	1.4471	0.1855	-0.7802	115.5	-	-	19N	100W
-2943	Mar 27	10:47:32	72188	8621	-61135	-15	N	a-	-1.0903	0.8297	-0.1154	225.3	-	-	6N	142E
-2943	Sep 19	22:48:26	72174	8618	-61129	-10	N	t-	1.2318	0.6383	-0.4421	231.0	-	-	10S	41W
-2942	Feb 15	15:37:11	72161	8616	-61124	-43	P	-a	0.7712	1.4526	0.4333	302.0	144.0	-	21N	72E
-2942	Aug 10	17:15:43	72147	8613	-61118	-38	P	-a	-0.8768	1.2421	0.2563	273.0	109.5	-	23S	42E
-2941	Feb 04	20:49:25	72132	8610	-61112	-33	T+	pp	0.0423	2.8173	1.7439	370.6	233.0	104.7	22N	7W
-2941	Jul 31	08:46:35	72117	8607	-61106	-28	T-	-p	-0.1503	2.5589	1.6049	316.8	208.9	93.9	24S	168E
-2940	Jan 24	20:47:37	72103	8604	-61100	-23	P	t-	-0.6806	1.6540	0.5653	340.0	170.7	-	23N	8W
-2940	Jul 20	01:08:01	72088	8601	-61094	-18	P	a-	0.5671	1.8007	0.8340	302.1	178.2	-	23S	78W
-2940	Dec 14	08:22:31	72076	8598	-61089	-51	N	-h	1.4882	0.1438	-0.8885	108.3	-	-	22N	174E
-2939	Jan 12	22:47:39	72073	8598	-61088	-13	N	h-	-1.3567	0.3962	-0.6584	181.8	-	-	23N	39W
-2939	Jun 10	01:54:49	72061	8595	-61083	-46	N	-t	-1.3690	0.3636	-0.6712	174.3	-	-	20S	92W
-2939	Jul 09	13:43:09	72059	8595	-61082	-8	N	t-	1.3546	0.3794	-0.6342	172.2	-	-	22S	92E
-2939	Dec 03	20:22:18	72046	8592	-61077	-41	P	-a	0.7498	1.4743	0.4902	284.9	143.9	-	19N	6W
-2938	May 30	04:37:21	72032	8589	-61071	-36	P	-t	-0.6415	1.7152	0.6473	341.8	180.3	-	16S	132W
-2938	Nov 23	11:51:58	72017	8586	-61065	-31	T+	-p	0.0793	2.6987	1.7260	319.8	210.0	96.7	15N	121E
-2937	May 19	05:31:31	72002	8583	-61059	-26	T+	pp	0.1278	2.6506	1.5968	366.7	231.6	101.7	12S	145W
-2937	Nov 13	02:13:22	71987	8580	-61053	-21	P	a-	-0.6047	1.7519	0.7453	308.0	173.6	-	10N	94W
-2936	May 07	11:39:24	71973	8577	-61047	-16	P	h-	0.8874	1.2315	0.2281	283.6	107.5	-	8S	124E
-2936	Nov 01	11:02:03	71958	8574	-61041	-11	N	t-	-1.3469	0.4192	-0.6452	186.5	-	-	5N	134E
-2935	Mar 28	17:52:21	71946	8572	-61036	-44	P	-a	-0.9285	1.1263	0.1817	254.2	90.8	-	6N	35E
-2935	Sep 21	17:19:18	71931	8569	-61030	-39	P	-t	0.9772	1.1161	0.0146	298.1	29.9	-	9S	41E
-2934	Mar 18	10:55:53	71916	8566	-61024	-34	T-	-p	-0.2049	2.4585	1.5050	318.5	208.9	90.3	10N	140E
-2934	Sep 10	18:29:48	71902	8563	-61018	-29	T+	-p	0.2621	2.4092	1.3456	356.9	220.7	84.2	14S	23E
-2933	Mar 08	00:53:05	71887	8560	-61012	-24	P	a-	0.5577	1.8350	0.8342	318.3	184.9	-	15N	69W

-2933	Aug 31	02:46:50	71872	8557	-61006	-19	T	a-	-0.4573	2.0206	1.0172	321.5	194.7	20.1	18S	101W
-2932	Jan 26	16:08:53	71860	8555	-61001	-52	N	t-	-1.5375	0.0799	-1.0054	87.5	-	-	22N	61E
-2932	Feb 25	07:59:44	71858	8554	-61000	-14	N	t-	1.3594	0.3928	-0.6649	184.2	-	-	19N	175W
-2932	Jul 21	08:42:14	71846	8552	-60995	-47	N	a-	1.4482	0.1761	-0.7751	110.4	-	-	23S	168E
-2932	Aug 19	17:12:57	71843	8551	-60994	-9	N	a-	-1.1251	0.7747	-0.1879	219.7	-	-	21S	42E
-2931	Jan 14	15:47:01	71831	8549	-60989	-42	P	t-	-0.8389	1.3617	0.2764	316.9	124.1	-	23N	65E
-2931	Jul 11	00:33:06	71816	8546	-60983	-37	P	a-	0.7724	1.4287	0.4526	285.8	141.2	-	23S	71W
-2930	Jan 03	19:26:30	71802	8543	-60977	-32	T-	pp	-0.0994	2.6962	1.6552	351.6	223.8	100.0	24N	9E
-2930	Jun 30	11:26:29	71787	8540	-60971	-27	T+	pp	0.0316	2.8138	1.7865	353.0	226.7	103.6	23S	125E
-2930	Dec 24	06:14:32	71772	8537	-60965	-22	P	a-	0.6031	1.7461	0.7567	303.1	172.8	-	23N	154W
-2929	Jun 19	15:15:10	71758	8534	-60959	-17	P	t-	-0.7491	1.5176	0.4501	328.0	154.7	-	22S	67E
-2929	Nov 14	10:51:46	71745	8531	-60954	-50	N	a-	-1.4222	0.2378	-0.7409	129.0	-	-	10N	135E
-2929	Dec 13	21:30:51	71743	8531	-60953	-12	N	a-	1.2492	0.5500	-0.4184	188.9	-	-	22N	25W
-2928	May 09	02:07:14	71731	8528	-60948	-45	N	t-	1.3029	0.4883	-0.5531	201.9	-	-	8S	94W
-2928	Jun 07	15:45:21	71728	8528	-60947	-7	N	t-	-1.4901	0.1558	-0.9075	120.4	-	-	20S	59E
-2928	Nov 03	00:02:51	71716	8525	-60942	-40	P	a-	-0.8035	1.3951	0.3724	292.5	132.2	-	7N	62W
-2927	Apr 28	10:18:43	71701	8522	-60936	-35	P	-h	0.4793	1.9724	0.9846	321.5	194.8	-	5S	144E
-2927	Oct 23	06:43:29	71687	8519	-60930	-30	T-	pp	-0.1286	2.6622	1.5826	365.3	228.0	99.1	3N	163W
-2926	Apr 18	00:59:29	71672	8516	-60924	-25	T	p-	-0.2920	2.2953	1.3486	314.2	204.2	79.5	1S	75W
-2926	Oct 12	06:52:07	71657	8513	-60918	-20	P	t-	0.5597	1.8848	0.7783	355.2	193.5	-	1S	165W
-2925	Mar 09	10:45:37	71645	8511	-60913	-53	Ne	a-	1.5058	0.0777	-0.8877	75.7	-	-	15N	143E
-2925	Apr 07	18:14:59	71643	8510	-60912	-15	P	a-	-1.0235	0.9522	0.0074	238.5	18.8	-	2N	26E
-2925	Oct 01	06:47:38	71628	8507	-60906	-10	N	h-	1.2184	0.6629	-0.4174	234.2	-	-	5S	163W
-2924	Feb 26	23:01:19	71616	8505	-60901	-43	P	a-	0.8265	1.3513	0.3317	295.7	128.3	-	18N	42W
-2924	Aug 21	01:20:16	71601	8502	-60895	-38	P	a-	-0.9058	1.1891	0.2029	268.0	97.9	-	21S	80W
-2923	Feb 15	03:55:37	71586	8499	-60889	-33	T+	pp	0.0936	2.7225	1.6506	370.6	232.7	103.1	20N	116W
-2923	Aug 10	16:52:28	71572	8496	-60883	-28	T-	-p	-0.1888	2.4898	1.5331	316.1	207.4	90.8	22S	46E
-2922	Feb 04	03:56:28	71557	8493	-60877	-23	P	t-	-0.6354	1.7344	0.6504	344.0	180.4	-	22N	117W
-2922	Jul 31	08:58:31	71543	8490	-60871	-18	P	a-	0.5231	1.8841	0.9120	306.8	184.2	-	23S	163E
-2922	Dec 25	16:38:11	71530	8488	-60866	-51	N	-h	1.4944	0.1294	-0.8971	102.4	-	-	24N	49E
-2921	Jan 24	06:26:49	71528	8487	-60865	-13	N	h-	-1.3218	0.4569	-0.5911	193.2	-	-	22N	155W
-2921	Jun 21	08:40:32	71516	8485	-60860	-46	N	t-	-1.4448	0.2274	-0.8128	140.2	-	-	23S	165E
-2921	Jul 20	21:02:47	71513	8484	-60859	-8	N	t-	1.3056	0.4727	-0.5476	191.4	-	-	23S	19W
-2921	Dec 15	05:02:38	71501	8482	-60854	-41	P	a-	0.7537	1.4651	0.4848	283.6	143.0	-	21N	138W
-2920	Jun 09	10:57:29	71486	8479	-60848	-36	P	t-	-0.7253	1.5626	0.4924	332.8	161.4	-	20S	130E
-2920	Dec 03	20:42:19	71472	8476	-60842	-31	T+	-p	0.0800	2.6971	1.7250	319.9	210.2	96.8	18N	14W
-2919	May 29	11:55:52	71457	8473	-60836	-26	T+	pp	0.0417	2.8077	1.7554	366.7	232.8	105.4	16S	116E
-2919	Nov 23	10:55:56	71443	8470	-60830	-21	P	a-	-0.6090	1.7448	0.7363	308.6	173.2	-	14N	133E
-2918	May 18	18:31:09	71428	8467	-60824	-16	P	a-	0.8050	1.3811	0.3809	293.9	135.4	-	12S	18E
-2918	Nov 12	19:22:45	71413	8464	-60818	-11	N	t-	-1.3526	0.4101	-0.6571	185.3	-	-	10N	6E

-2917	Apr 09	01:18:55	71401	8461	-60813	-44	P	-a	-0.9963	1.0007	0.0585	242.5	52.4	-	2N	80W
-2917	May 08	08:05:59	71399	8461	-60812	-6	Nb	a-	1.5022	0.0776	-0.8746	75.0	-	-	7S	175E
-2917	Oct 03	01:09:11	71386	8458	-60807	-39	Nx	t-	0.9871	1.0988	-0.0043	296.3	-	-	5S	80W
-2916	Mar 28	18:25:28	71372	8455	-60801	-34	T-	-p	-0.2710	2.3373	1.3838	317.0	206.1	82.6	6N	24E
-2916	Sep 21	02:29:20	71357	8453	-60795	-29	T	-p	0.2760	2.3835	1.3201	355.3	219.1	81.6	10S	99W
-2915	Mar 18	08:08:32	71343	8450	-60789	-24	P	h-	0.4965	1.9479	0.9462	324.4	193.7	-	11N	179E
-2915	Sep 10	11:03:14	71328	8447	-60783	-19	T	a-	-0.4375	2.0570	1.0536	321.8	196.2	35.0	14S	133E
-2914	Mar 07	14:53:27	71313	8444	-60777	-14	N	t-	1.3010	0.4998	-0.5574	206.2	-	-	15N	79E
-2914	Aug 01	16:40:06	71301	8441	-60772	-47	N	-a	1.4912	0.0990	-0.8557	83.5	-	-	22S	47E
-2914	Aug 31	01:33:56	71299	8441	-60771	-9	N	a-	-1.0995	0.8228	-0.1418	225.2	-	-	18S	85W
-2913	Jan 25	23:09:23	71287	8438	-60766	-42	P	-t	-0.8730	1.2965	0.2166	310.5	110.6	-	23N	47W
-2913	Jul 22	08:11:12	71272	8435	-60760	-37	P	-a	0.8261	1.3330	0.3511	280.3	126.6	-	23S	173E
-2912	Jan 15	03:21:30	71257	8432	-60754	-32	T-	pp	-0.1233	2.6491	1.6146	349.4	222.6	98.7	24N	111W
-2912	Jul 10	18:30:44	71243	8429	-60748	-27	T+	pp	0.0949	2.7008	1.6672	354.4	226.3	101.6	24S	17E
-2911	Jan 03	14:39:45	71228	8426	-60742	-22	P	a-	0.5862	1.7744	0.7901	303.4	175.2	-	24N	78E
-2911	Jun 29	21:47:22	71213	8423	-60736	-17	P	t-	-0.6745	1.6564	0.5849	337.8	172.8	-	23S	33W
-2911	Nov 24	19:42:18	71201	8421	-60731	-50	N	-a	-1.4242	0.2343	-0.7450	128.3	-	-	14N	0E
-2911	Dec 24	06:10:42	71199	8420	-60730	-12	N	a-	1.2396	0.5665	-0.3997	191.3	-	-	24N	156W
-2910	May 20	08:37:46	71187	8418	-60725	-45	N	-t	1.3821	0.3417	-0.6972	170.6	-	-	12S	165E
-2910	Jun 18	22:14:25	71184	8418	-60724	-7	N	t-	-1.4102	0.3025	-0.7611	165.2	-	-	22S	41W
-2910	Nov 14	08:39:39	71172	8415	-60719	-40	P	-a	-0.8043	1.3951	0.3696	293.6	132.1	-	11N	166E
-2909	May 09	17:18:26	71157	8412	-60713	-35	P	-h	0.5564	1.8290	0.8448	314.1	184.3	-	9S	36E
-2909	Nov 03	14:57:00	71143	8409	-60707	-30	T-	pp	-0.1286	2.6637	1.5811	366.6	228.5	99.2	7N	71E
-2908	Apr 28	08:18:55	71128	8406	-60701	-25	T-	p-	-0.2161	2.4334	1.4890	316.1	207.9	89.3	5S	171E
-2908	Oct 22	14:50:17	71114	8403	-60695	-20	P	t-	0.5556	1.8928	0.7851	355.7	194.1	-	3N	73E
-2907	Apr 18	01:37:20	71099	8400	-60689	-15	P	a-	-0.9529	1.0818	0.1368	251.1	79.5	-	2S	88W
-2907	Oct 11	14:54:48	71084	8397	-60683	-10	N	h-	1.2104	0.6773	-0.4024	235.8	-	-	1S	72E
-2906	Mar 09	06:13:45	71072	8395	-60678	-43	P	-h	0.8904	1.2344	0.2141	287.5	105.3	-	15N	152W
-2906	Sep 01	09:35:09	71058	8392	-60672	-38	P	-a	-0.9271	1.1502	0.1634	264.1	88.1	-	18S	154E
-2905	Feb 26	10:51:26	71043	8389	-60666	-33	T+	pp	0.1529	2.6129	1.5424	370.0	231.4	99.4	17N	138E
-2905	Aug 22	01:06:44	71028	8386	-60660	-28	T-	-p	-0.2202	2.4336	1.4740	315.4	205.9	87.5	20S	80W
-2904	Feb 15	10:58:05	71014	8383	-60654	-23	P	t-	-0.5839	1.8265	0.7473	348.1	190.0	-	20N	136E
-2904	Aug 10	16:55:54	70999	8380	-60648	-18	P	a-	0.4854	1.9560	0.9783	310.8	188.9	-	22S	42E
-2903	Jan 05	00:49:00	70987	8378	-60643	-51	N	-h	1.5051	0.1066	-0.9138	92.7	-	-	25N	75W
-2903	Feb 03	13:59:31	70985	8377	-60642	-13	N	h-	-1.2808	0.5287	-0.5125	205.5	-	-	21N	90E
-2903	Jul 01	15:29:02	70973	8375	-60637	-46	Ne	-t	-1.5170	0.0978	-0.9482	93.4	-	-	24S	61E
-2903	Jul 31	04:27:41	70970	8374	-60636	-8	N	t-	1.2614	0.5572	-0.4699	207.2	-	-	22S	132W
-2903	Dec 25	13:38:37	70958	8372	-60631	-41	P	-a	0.7618	1.4483	0.4721	281.8	141.1	-	23N	92E
-2902	Jun 20	17:22:14	70943	8369	-60625	-36	P	-t	-0.8049	1.4179	0.3449	322.8	138.3	-	22S	32E
-2902	Dec 15	05:26:45	70929	8366	-60619	-31	T+	-p	0.0855	2.6865	1.7154	320.0	210.3	96.7	21N	146W

-2901 Jun 09	18:27:15	70914	8363	-60613	-26	T-	pp	-0.0394	2.8116	1.7603	365.7	232.3	105.2	19S	16E
-2901 Dec 04	19:33:39	70900	8360	-60607	-21	P	a-	-0.6098	1.7442	0.7342	309.6	173.5	-	18N	1E
-2900 May 29	01:27:58	70885	8357	-60601	-16	P	a-	0.7255	1.5256	0.5281	302.4	155.3	-	15S	89W
-2900 Nov 23	03:40:14	70870	8354	-60595	-11	N	t-	-1.3563	0.4044	-0.6649	184.7	-	-	14N	121W

29TH CENTURY BCE

**In the 29th century BCE the total number of lunar eclipses was 231 lunar eclipses:
84 penumbral lunar eclipses, 69 partial lunar eclipses, 78 total lunar eclipses
(33 central total lunar eclipses, 45 non-central total lunar eclipses).**

CALENDAR		TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG	
GREATEST		S									m	m	m	°	°	
ECLIPSE																
-2899 Apr 19	08:42:46	70858	8352	-60590	-44	N	-a	-1.0667	0.8707	-0.0697	229.1	-	-	3S	165E	
-2899 May 18	15:22:43	70856	8351	-60589	-6	N	a-	1.4265	0.2156	-0.7350	123.1	-	-	11S	63E	
-2899 Oct 13	09:04:44	70844	8349	-60584	-39	Nx	-t	0.9922	1.0899	-0.0142	295.2	-	-	0S	159E	
-2898 Apr 09	01:47:42	70829	8346	-60578	-34	T	-a	-0.3426	2.2062	1.2522	314.7	201.8	70.2	2N	90W	
-2898 Oct 02	10:38:07	70815	8343	-60572	-29	Tm	-p	0.2830	2.3703	1.3077	353.9	218.1	80.1	6S	136E	
-2897 Mar 29	15:14:59	70800	8340	-60566	-24	T	t-	0.4288	2.0729	1.0696	330.4	202.0	40.6	7N	70E	
-2897 Sep 21	19:28:40	70786	8337	-60560	-19	T	a-	-0.4245	2.0806	1.0776	321.6	197.0	41.6	10S	4E	
-2896 Mar 17	21:37:54	70771	8334	-60554	-14	N	t-	1.2355	0.6198	-0.4373	227.5	-	-	12N	25W	
-2896 Aug 12	00:46:32	70759	8331	-60549	-47	Ne	-a	1.5273	0.0348	-0.9237	49.8	-	-	20S	76W	
-2896 Sep 10	10:03:47	70756	8331	-60548	-9	N	a-	-1.0810	0.8577	-0.1089	229.0	-	-	15S	145E	
-2895 Feb 05	06:22:52	70744	8328	-60543	-42	P	-t	-0.9147	1.2171	0.1429	302.5	90.6	-	21N	156W	
-2895 Aug 01	15:55:28	70730	8326	-60537	-37	P	a-	0.8740	1.2484	0.2603	275.1	110.8	-	22S	56E	
-2894 Jan 25	11:09:34	70715	8323	-60531	-32	T-	pp	-0.1538	2.5897	1.5620	346.9	221.2	96.6	23N	131E	
-2894 Jul 22	01:40:56	70700	8320	-60525	-27	T+	pp	0.1523	2.5988	1.5585	355.2	225.2	98.0	24S	92W	
-2893 Jan 14	22:58:07	70686	8317	-60519	-22	P	a-	0.5631	1.8141	0.8351	304.1	178.4	-	25N	47W	
-2893 Jul 11	04:26:51	70671	8314	-60513	-17	P	t-	-0.6060	1.7843	0.7085	346.0	186.5	-	24S	134W	

-2893	Dec 06	04:30:24	70659	8311	-60508	-50	N	-a	-1.4280	0.2274	-0.7520	126.7	-	-	17N	134W
-2892	Jan 04	14:45:18	70657	8311	-60507	-12	N	a-	1.2260	0.5903	-0.3735	194.8	-	-	25N	74E
-2892	May 30	15:12:37	70645	8308	-60502	-45	N	-t	1.4583	0.2008	-0.8359	132.0	-	-	15S	64E
-2892	Jun 29	04:50:12	70642	8308	-60501	-7	N	t-	-1.3345	0.4416	-0.6224	196.7	-	-	24S	141W
-2892	Nov 24	17:14:54	70630	8305	-60496	-40	P	-a	-0.8057	1.3936	0.3659	294.5	131.9	-	15N	35E
-2891	May 20	00:20:51	70616	8303	-60490	-35	P	-a	0.6321	1.6886	0.7074	305.9	172.1	-	12S	73W
-2891	Nov 13	23:09:26	70601	8300	-60484	-30	T-	pp	-0.1293	2.6636	1.5787	367.7	228.9	99.3	11N	54W
-2890	May 09	15:38:27	70587	8297	-60478	-25	T-	p-	-0.1396	2.5731	1.6301	317.4	210.5	95.5	9S	58E
-2890	Nov 02	22:50:20	70572	8294	-60472	-20	P	t-	0.5528	1.8982	0.7901	356.0	194.6	-	8N	50W
-2889	Apr 29	08:58:26	70557	8291	-60466	-15	P	a-	-0.8811	1.2140	0.2680	262.6	109.5	-	6S	159E
-2889	Oct 22	23:05:34	70543	8288	-60460	-10	N	h-	1.2044	0.6876	-0.3905	236.7	-	-	4N	53W
-2888	Mar 19	13:18:28	70531	8285	-60455	-43	P	-h	0.9597	1.1079	0.0866	277.2	68.4	-	11N	99E
-2888	Sep 11	17:58:56	70516	8282	-60449	-38	P	-a	-0.9421	1.1228	0.1357	261.1	80.4	-	14S	26E
-2887	Mar 08	17:36:32	70502	8279	-60443	-33	T+	pp	0.2205	2.4883	1.4191	368.6	228.8	92.3	14N	34E
-2887	Sep 01	09:29:39	70487	8277	-60437	-28	T-	p-	-0.2446	2.3902	1.4276	314.9	204.6	84.6	17S	153E
-2886	Feb 25	17:49:07	70473	8274	-60431	-23	P	t-	-0.5231	1.9357	0.8614	352.4	199.6	-	17N	31E
-2886	Aug 22	01:02:07	70458	8271	-60425	-18	T	p-	0.4555	2.0137	1.0304	314.1	192.4	26.2	19S	81W
-2885	Jan 16	08:50:51	70446	8268	-60420	-51	N	-h	1.5241	0.0686	-0.9453	74.3	-	-	25N	164E
-2885	Feb 14	21:22:41	70444	8268	-60419	-13	N	h-	-1.2307	0.6171	-0.4172	219.0	-	-	19N	23W
-2885	Aug 11	12:01:44	70429	8265	-60413	-8	N	t-	1.2252	0.6272	-0.4068	219.4	-	-	21S	113E
-2884	Jan 05	22:07:50	70417	8262	-60408	-41	P	-a	0.7763	1.4195	0.4476	279.2	137.7	-	25N	37W
-2884	Jun 30	23:52:25	70402	8259	-60402	-36	P	-t	-0.8800	1.2817	0.2057	312.0	109.1	-	24S	67W
-2884	Dec 25	14:06:14	70388	8257	-60396	-31	T+	-p	0.0952	2.6680	1.6983	320.1	210.4	96.5	23N	82E
-2883	Jun 20	01:03:54	70373	8254	-60390	-26	T-	pp	-0.1174	2.6681	1.6175	363.7	230.2	101.8	21S	86W
-2883	Dec 15	04:06:25	70359	8251	-60384	-21	P	a-	-0.6073	1.7492	0.7383	310.8	174.4	-	20N	129W
-2882	Jun 09	08:28:53	70344	8248	-60378	-16	P	a-	0.6481	1.6665	0.6712	309.4	170.5	-	18S	163E
-2882	Dec 04	11:54:16	70330	8245	-60372	-11	N	t-	-1.3578	0.4024	-0.6683	184.8	-	-	17N	114E
-2881	Apr 30	16:05:05	70318	8242	-60367	-44	N	-a	-1.1383	0.7388	-0.2005	213.8	-	-	7S	51E
-2881	May 29	22:42:18	70315	8242	-60366	-6	N	a-	1.3526	0.3506	-0.5988	154.7	-	-	15S	50W
-2881	Oct 24	17:04:32	70303	8239	-60361	-39	Nx	-t	0.9942	1.0864	-0.0179	294.6	-	-	4N	36E
-2880	Apr 19	09:07:07	70289	8237	-60355	-34	T	-a	-0.4160	2.0721	1.1169	311.7	196.1	50.0	2S	157E
-2880	Oct 12	18:53:28	70274	8234	-60349	-29	T	-p	0.2855	2.3651	1.3037	352.7	217.3	79.5	1S	9E
-2879	Apr 08	22:14:28	70260	8231	-60343	-24	T	p-	0.3562	2.2070	1.2018	336.0	209.5	66.6	3N	39W
-2879	Oct 02	04:01:14	70245	8228	-60337	-19	T	a-	-0.4167	2.0946	1.0922	321.2	197.2	45.1	6S	127W
-2878	Mar 29	04:14:23	70230	8225	-60331	-14	N	t-	1.1639	0.7513	-0.3059	247.9	-	-	8N	127W
-2878	Sep 21	18:40:35	70216	8222	-60325	-9	N	a-	-1.0682	0.8822	-0.0862	231.6	-	-	11S	14E
-2877	Feb 16	13:27:51	70204	8219	-60320	-42	P	-t	-0.9637	1.1243	0.0558	292.6	57.2	-	19N	95E
-2877	Aug 12	23:48:17	70189	8217	-60314	-37	P	-a	0.9140	1.1781	0.1837	270.5	94.4	-	21S	64W
-2876	Feb 05	18:50:23	70175	8214	-60308	-32	T-	pp	-0.1913	2.5175	1.4967	344.1	219.2	93.2	22N	14E
-2876	Aug 01	08:57:52	70160	8211	-60302	-27	T+	-p	0.2032	2.5089	1.4619	355.8	223.7	93.0	23S	158E

-2875	Jan 25	07:08:59	70146	8208	-60296	-22	P	a-	0.5334	1.8661	0.8923	305.3	182.3	-	24N	171W
-2875	Jul 21	11:14:28	70131	8205	-60290	-17	P	t-	-0.5444	1.8994	0.8193	352.6	196.9	-	24S	122E
-2875	Dec 16	13:12:04	70119	8202	-60285	-50	N	a-	-1.4371	0.2107	-0.7684	122.3	-	-	20N	94E
-2874	Jan 14	23:10:17	70117	8202	-60284	-12	N	a-	1.2049	0.6276	-0.3337	200.1	-	-	25N	53W
-2874	Jun 10	21:53:16	70105	8199	-60279	-45	Ne	t-	1.5305	0.0676	-0.9676	77.2	-	-	18S	39W
-2874	Jul 10	11:35:53	70102	8199	-60278	-7	N	t-	-1.2657	0.5684	-0.4965	220.1	-	-	25S	116E
-2874	Dec 06	01:45:00	70090	8197	-60273	-40	P	a-	-0.8106	1.3855	0.3562	295.0	130.7	-	18N	95W
-2873	May 31	07:27:30	70076	8194	-60267	-35	P	a-	0.7054	1.5529	0.5741	297.1	157.9	-	16S	178E
-2873	Nov 25	07:19:04	70061	8191	-60261	-30	T-	pp	-0.1316	2.6600	1.5737	368.6	229.3	99.3	15N	179W
-2872	May 19	22:59:12	70047	8188	-60255	-25	T-	pp	-0.0638	2.7118	1.7696	317.9	211.8	98.8	13S	55W
-2872	Nov 13	06:52:09	70032	8185	-60249	-20	P	t-	0.5512	1.9010	0.7933	355.9	194.8	-	12N	173W
-2871	May 09	16:15:24	70018	8182	-60243	-15	P	a-	-0.8064	1.3519	0.4043	273.4	132.0	-	10S	46E
-2871	Nov 02	07:21:38	70003	8179	-60237	-10	N	h-	1.2017	0.6913	-0.3846	236.5	-	-	8N	180E
-2870	Mar 30	20:13:42	69991	8177	-60232	-43	N	t-	1.0353	0.9698	-0.0530	264.2	-	-	7N	8W
-2870	Sep 23	02:31:07	69977	8174	-60226	-38	P	a-	-0.9511	1.1065	0.1193	259.0	75.4	-	10S	105W
-2869	Mar 20	00:13:19	69962	8171	-60220	-33	T	t-	0.2944	2.3521	1.2841	366.2	224.5	80.2	10N	68W
-2869	Sep 12	18:00:36	69948	8168	-60214	-28	T-	p-	-0.2623	2.3592	1.3938	314.6	203.6	82.1	14S	23E
-2868	Mar 08	00:34:32	69933	8165	-60208	-23	P	t-	-0.4569	2.0546	0.9851	356.4	208.4	-	14N	73W
-2868	Sep 01	09:14:26	69919	8162	-60202	-18	T	p-	0.4313	2.0611	1.0721	317.0	195.1	39.9	16S	154E
-2867	Jan 26	16:47:30	69907	8160	-60197	-51	Ne	a-	1.5480	0.0214	-0.9859	41.5	-	-	25N	44E
-2867	Feb 25	04:40:50	69904	8159	-60196	-13	N	a-	-1.1754	0.7153	-0.3123	232.4	-	-	16N	134W
-2867	Aug 21	19:42:22	69890	8156	-60190	-8	N	t-	1.1947	0.6865	-0.3543	229.3	-	-	19S	4W
-2866	Jan 16	06:29:30	69878	8154	-60185	-41	P	a-	0.7975	1.3783	0.4108	275.7	132.5	-	25N	163W
-2866	Jul 12	06:30:57	69863	8151	-60179	-36	P	t-	-0.9480	1.1586	0.0794	300.9	69.0	-	25S	168W
-2865	Jan 05	22:37:51	69849	8148	-60173	-31	T+	p-	0.1115	2.6373	1.6691	320.1	210.3	95.9	24N	47W
-2865	Jul 01	07:50:01	69834	8145	-60167	-26	T-	pp	-0.1883	2.5378	1.4875	361.1	227.1	95.6	23S	171E
-2865	Dec 26	12:31:07	69820	8142	-60161	-21	P	a-	-0.5987	1.7652	0.7537	312.6	176.2	-	22N	104E
-2864	Jun 19	15:37:54	69806	8139	-60155	-16	P	a-	0.5760	1.7979	0.8042	314.9	181.9	-	21S	53E
-2864	Dec 14	20:01:24	69791	8136	-60149	-11	N	t-	-1.3544	0.4089	-0.6625	186.7	-	-	20N	10W
-2863	May 10	23:26:04	69779	8134	-60144	-44	N	a-	-1.2111	0.6050	-0.3339	196.0	-	-	11S	63W
-2863	Jun 09	06:05:18	69777	8133	-60143	-6	N	a-	1.2808	0.4822	-0.4669	178.8	-	-	18S	163W
-2863	Nov 04	01:07:10	69765	8131	-60138	-39	Nx	t-	0.9941	1.0861	-0.0174	294.2	-	-	9N	87W
-2862	Apr 30	16:22:14	69750	8128	-60132	-34	P	a-	-0.4926	1.9325	0.9755	307.7	188.6	-	6S	44E
-2862	Oct 24	03:13:48	69736	8125	-60126	-29	T	p-	0.2848	2.3654	1.3060	351.4	216.8	79.6	3N	119W
-2861	Apr 20	05:08:00	69721	8122	-60120	-24	T	pp	0.2795	2.3490	1.3412	341.0	215.8	82.7	2S	146W
-2861	Oct 13	12:40:51	69707	8119	-60114	-19	T	a-	-0.4139	2.0992	1.0979	320.4	197.0	46.2	2S	100E
-2860	Apr 08	10:43:37	69692	8116	-60108	-14	N	t-	1.0867	0.8932	-0.1644	267.0	-	-	3N	132E
-2860	Oct 02	03:24:21	69678	8113	-60102	-9	N	a-	-1.0610	0.8961	-0.0739	233.0	-	-	7S	120W
-2859	Feb 26	20:25:11	69666	8111	-60097	-42	Nx	t-	-1.0193	1.0194	-0.0433	280.7	-	-	16N	11W
-2859	Aug 23	07:48:34	69651	8108	-60091	-37	P	a-	0.9470	1.1208	0.1201	266.7	77.2	-	18S	174E

-2858	Feb 16	02:22:55	69637	8105	-60085	-32	T-	pp	-0.2364	2.4313	1.4173	340.8	216.5	88.1	19N	101W
-2858	Aug 12	16:23:12	69622	8102	-60079	-27	T+	p	0.2460	2.4336	1.3799	356.2	221.8	87.3	21S	45E
-2857	Feb 05	15:12:42	69608	8099	-60073	-22	P	a-	0.4973	1.9296	0.9611	306.8	186.5	-	22N	67E
-2857	Aug 01	18:10:24	69594	8097	-60067	-17	P	t-	-0.4897	2.0020	0.9175	357.9	204.8	-	24S	17E
-2857	Dec 27	21:48:07	69581	8094	-60062	-50	N	a-	-1.4504	0.1859	-0.7927	115.4	-	-	22N	36W
-2856	Jan 26	07:28:29	69579	8094	-60061	-12	N	a-	1.1787	0.6746	-0.2843	206.5	-	-	25N	178W
-2856	Jul 20	18:30:42	69565	8091	-60055	-7	N	t-	-1.2032	0.6835	-0.3823	238.2	-	-	25S	11E
-2856	Dec 16	10:10:06	69553	8088	-60050	-40	P	a-	-0.8190	1.3706	0.3401	294.9	128.4	-	20N	137E
-2855	Jun 10	14:38:16	69538	8085	-60044	-35	P	a-	0.7761	1.4223	0.4453	287.7	141.4	-	18S	67E
-2855	Dec 05	15:24:27	69524	8082	-60038	-30	T-	pp	-0.1368	2.6508	1.5638	369.4	229.6	99.0	19N	58E
-2854	May 31	06:22:37	69509	8080	-60032	-25	T+	pp	0.0101	2.8102	1.8680	317.9	212.0	99.6	16S	169W
-2854	Nov 24	14:50:40	69495	8077	-60026	-20	P	t-	0.5467	1.9084	0.8021	356.0	195.5	-	16N	65E
-2853	May 20	23:34:06	69480	8074	-60020	-15	P	a-	-0.7334	1.4870	0.5371	282.9	149.4	-	14S	67W
-2853	Nov 13	15:38:15	69466	8071	-60014	-10	N	a-	1.1991	0.6947	-0.3782	236.2	-	-	12N	53E
-2852	Apr 10	03:02:44	69454	8068	-60009	-43	N	t-	1.1149	0.8247	-0.1999	248.3	-	-	3N	114W
-2852	May 09	13:33:48	69452	8068	-60008	-5	Nb	t-	-1.5395	0.0306	-0.9643	49.8	-	-	11S	84E
-2852	Oct 03	11:09:35	69440	8066	-60003	-38	P	a-	-0.9556	1.0981	0.1110	257.7	72.6	-	6S	123E
-2851	Mar 30	06:42:02	69425	8063	-59997	-33	T	t-	0.3743	2.2051	1.1379	362.5	218.1	58.9	6N	168W
-2851	Sep 23	02:38:55	69411	8060	-59991	-28	T	-p	-0.2742	2.3388	1.3707	314.5	202.9	80.3	9S	109W
-2850	Mar 19	07:10:43	69396	8057	-59985	-23	T	t-	-0.3823	2.1893	1.1243	360.1	216.4	55.9	10N	175W
-2850	Sep 12	17:35:36	69382	8054	-59979	-18	T	p-	0.4149	2.0940	1.0995	319.4	197.0	46.6	13S	26E
-2849	Mar 08	11:51:17	69367	8051	-59973	-13	N	a-	-1.1122	0.8279	-0.1932	245.9	-	-	13N	116E
-2849	Sep 02	03:31:05	69353	8048	-59967	-8	N	t-	1.1714	0.7326	-0.3148	236.9	-	-	16S	123W
-2848	Jan 27	14:43:24	69341	8046	-59962	-41	P	a-	0.8258	1.3240	0.3611	271.3	125.0	-	24N	72E
-2848	Jul 22	13:17:56	69327	8043	-59956	-36	Nx	t-	-1.0091	1.0480	-0.0344	289.8	-	-	25S	88E
-2847	Jan 16	07:01:47	69312	8040	-59950	-31	T+	-p	0.1340	2.5953	1.6288	320.1	210.1	94.9	24N	174W
-2847	Jul 11	14:43:44	69298	8037	-59944	-26	T-	pp	-0.2540	2.4173	1.3669	357.9	223.0	86.8	24S	66E
-2846	Jan 05	20:48:30	69283	8034	-59938	-21	P	a-	-0.5849	1.7907	0.7789	314.8	178.9	-	23N	22W
-2846	Jun 30	22:53:51	69269	8031	-59932	-16	P	a-	0.5086	1.9211	0.9284	319.1	190.6	-	22S	57W
-2846	Dec 26	04:01:12	69254	8028	-59926	-11	N	t-	-1.3458	0.4248	-0.6467	190.5	-	-	22N	131W
-2845	May 22	06:48:43	69242	8026	-59921	-44	N	a-	-1.2827	0.4738	-0.4654	175.7	-	-	15S	176W
-2845	Jun 20	13:34:09	69240	8026	-59920	-6	N	a-	1.2132	0.6065	-0.3428	197.8	-	-	20S	82E
-2845	Nov 15	09:11:19	69228	8023	-59915	-39	Nx	t-	0.9934	1.0868	-0.0152	293.8	-	-	13N	149E
-2844	May 10	23:35:56	69214	8020	-59909	-34	P	a-	-0.5696	1.7924	0.8329	302.8	179.1	-	10S	67W
-2844	Nov 03	11:37:33	69199	8017	-59903	-29	T	-p	0.2821	2.3689	1.3122	350.2	216.4	80.0	8N	113E
-2843	Apr 30	11:57:45	69185	8014	-59897	-24	T+	pp	0.2005	2.4955	1.4847	345.3	220.8	93.5	6S	108E
-2843	Oct 23	21:24:15	69171	8012	-59891	-19	T	a-	-0.4139	2.0985	1.0986	319.4	196.6	46.3	3N	33W
-2842	Apr 19	17:07:43	69156	8009	-59885	-14	Nx	t-	1.0056	1.0424	-0.0161	284.7	-	-	1S	32E
-2842	Oct 13	12:12:56	69142	8006	-59879	-9	N	a-	-1.0580	0.9023	-0.0689	233.6	-	-	2S	105E
-2841	Mar 10	03:16:07	69130	8003	-59874	-42	N	t-	-1.0802	0.9048	-0.1523	266.6	-	-	12N	117W

-2841	Sep 03	15:56:06	69115	8000	-59868	-37	P	-a	0.9731	1.0759	0.0691	263.7	59.1	-	15S	50E
-2840	Feb 27	09:49:21	69101	7998	-59862	-32	T	-p	-0.2875	2.3342	1.3268	337.0	213.0	80.5	17N	146E
-2840	Aug 22	23:56:32	69086	7995	-59856	-27	T	-p	0.2813	2.3722	1.3120	356.6	220.1	81.3	19S	70W
-2839	Feb 15	23:07:22	69072	7992	-59850	-22	T	a-	0.4531	2.0081	1.0448	308.7	191.2	31.4	20N	54W
-2839	Aug 12	01:16:05	69058	7989	-59844	-17	T	t-	-0.4429	2.0901	1.0013	362.0	210.7	5.9	22S	91W
-2838	Jan 07	06:15:27	69046	7986	-59839	-50	N	-a	-1.4706	0.1485	-0.8292	103.7	-	-	22N	164W
-2838	Feb 05	15:36:30	69043	7986	-59838	-12	N	a-	1.1444	0.7362	-0.2203	214.4	-	-	23N	58E
-2838	Aug 01	01:37:11	69029	7983	-59832	-7	N	t-	-1.1489	0.7837	-0.2832	252.1	-	-	24S	97W
-2838	Dec 27	18:26:06	69017	7981	-59827	-40	P	-a	-0.8341	1.3432	0.3121	293.8	123.9	-	22N	12E
-2837	Jun 21	21:56:22	69003	7978	-59821	-35	P	-a	0.8416	1.3015	0.3257	278.1	122.7	-	21S	44W
-2837	Dec 16	23:24:07	68988	7975	-59815	-30	T-	pp	-0.1460	2.6339	1.5469	370.0	229.8	98.5	21N	64W
-2836	Jun 10	13:48:38	68974	7972	-59809	-25	T+	pp	0.0821	2.6785	1.7357	317.2	211.1	98.1	19S	77E
-2836	Dec 04	22:47:52	68959	7969	-59803	-20	P	t-	0.5410	1.9179	0.8139	356.0	196.4	-	19N	56W
-2835	May 31	06:52:08	68945	7966	-59797	-15	P	a-	-0.6605	1.6223	0.6693	291.5	163.7	-	17S	179W
-2835	Nov 23	23:55:25	68931	7963	-59791	-10	N	a-	1.1957	0.6991	-0.3702	236.0	-	-	16N	73W
-2834	Apr 21	09:44:52	68919	7961	-59786	-43	N	t-	1.1989	0.6717	-0.3553	228.5	-	-	2S	142E
-2834	May 20	20:28:00	68916	7961	-59785	-5	N	t-	-1.4677	0.1646	-0.8344	114.7	-	-	14S	23W
-2834	Oct 14	19:54:27	68904	7958	-59780	-38	P	-a	-0.9558	1.0976	0.1109	257.1	72.5	-	1S	11W
-2833	Apr 10	13:05:44	68890	7955	-59774	-33	P	-t	0.4581	2.0510	0.9844	357.4	209.2	-	2N	93E
-2833	Oct 04	11:22:28	68876	7952	-59768	-28	T	-p	-0.2818	2.3260	1.3554	314.5	202.5	79.1	5S	117E
-2832	Mar 29	13:43:56	68861	7950	-59762	-23	T	t-	-0.3043	2.3301	1.2695	362.9	222.9	78.3	6N	84E
-2832	Sep 23	02:02:21	68847	7947	-59756	-18	T	p-	0.4034	2.1175	1.1179	321.4	198.4	50.5	9S	103W
-2831	Mar 18	18:56:40	68833	7944	-59750	-13	N	a-	-1.0436	0.9506	-0.0642	258.9	-	-	9N	6E
-2831	Sep 12	11:26:39	68818	7941	-59744	-8	N	t-	1.1541	0.7675	-0.2862	242.8	-	-	12S	116E
-2830	Feb 06	22:49:22	68806	7938	-59739	-41	P	-a	0.8612	1.2570	0.2984	265.8	114.6	-	22N	51W
-2830	Aug 02	20:15:09	68792	7936	-59733	-36	N	-t	-1.0619	0.9527	-0.1329	279.2	-	-	24S	17W
-2829	Jan 27	15:16:08	68777	7933	-59727	-31	T+	-p	0.1643	2.5388	1.5738	319.8	209.6	93.0	23N	62E
-2829	Jul 22	21:49:18	68763	7930	-59721	-26	T	-p	-0.3110	2.3129	1.2623	354.5	218.5	76.1	24S	42W
-2828	Jan 17	04:56:15	68749	7927	-59715	-21	P	a-	-0.5637	1.8296	0.8177	317.6	182.7	-	23N	145W
-2828	Jul 11	06:18:35	68734	7924	-59709	-16	T	a-	0.4473	2.0333	1.0413	322.3	197.0	31.1	23S	170W
-2827	Jan 05	11:51:45	68720	7921	-59703	-11	N	t-	-1.3302	0.4531	-0.6181	196.7	-	-	23N	110E
-2827	Jun 01	14:13:10	68708	7919	-59698	-44	N	-a	-1.3531	0.3452	-0.5951	151.8	-	-	18S	70E
-2827	Jun 30	21:09:15	68706	7918	-59697	-6	N	a-	1.1499	0.7230	-0.2271	213.2	-	-	22S	34W
-2827	Nov 25	17:13:06	68694	7916	-59692	-39	Nx	-t	0.9948	1.0829	-0.0166	292.8	-	-	17N	26E
-2826	May 22	06:48:29	68679	7913	-59686	-34	P	-a	-0.6469	1.6523	0.6894	297.0	167.3	-	14S	179W
-2826	Nov 14	20:02:51	68665	7910	-59680	-29	T	-p	0.2792	2.3725	1.3192	348.9	216.1	80.5	12N	16W
-2825	May 11	18:44:25	68651	7907	-59674	-24	T+	pp	0.1200	2.6451	1.6306	348.8	224.4	100.3	10S	3E
-2825	Nov 04	06:10:29	68636	7904	-59668	-19	T	a-	-0.4155	2.0944	1.0967	318.3	196.0	45.8	7N	168W
-2824	Apr 29	23:27:35	68622	7902	-59662	-14	P	t-	0.9211	1.1980	0.1382	300.8	89.6	-	5S	66W
-2824	Oct 23	21:06:06	68608	7899	-59656	-9	N	a-	-1.0587	0.9012	-0.0707	233.5	-	-	2N	31W

-2823	Mar 20	09:59:18	68596	7896	-59651	-42	N	-t	-1.1479	0.7778	-0.2738	249.4	-	-	9N	140E
-2823	Sep 14	00:11:13	68581	7893	-59645	-37	P	-a	0.9924	1.0435	0.0307	261.8	39.8	-	12S	76W
-2822	Mar 09	17:08:46	68567	7891	-59639	-32	T	-p	-0.3455	2.2245	1.2236	332.6	208.3	68.9	13N	33E
-2822	Sep 03	07:37:46	68553	7888	-59633	-27	T	-p	0.3094	2.3239	1.2573	357.1	218.4	75.4	16S	172E
-2821	Feb 27	06:55:32	68538	7885	-59627	-22	T	a-	0.4028	2.0979	1.1394	310.7	195.9	53.9	17N	173W
-2821	Aug 23	08:31:20	68524	7882	-59621	-17	T	t-	-0.4038	2.1638	1.0710	365.3	215.0	43.2	20S	159E
-2820	Jan 18	14:35:58	68512	7880	-59616	-50	N	-a	-1.4960	0.1014	-0.8755	86.2	-	-	22N	70E
-2820	Feb 16	23:37:46	68510	7879	-59615	-12	N	a-	1.1049	0.8075	-0.1468	223.1	-	-	21N	64W
-2820	Aug 11	08:52:46	68495	7876	-59609	-7	N	t-	-1.1010	0.8720	-0.1959	263.0	-	-	23S	153E
-2819	Jan 07	02:34:56	68483	7874	-59604	-40	P	-a	-0.8543	1.3064	0.2750	291.9	117.3	-	23N	111W
-2819	Jul 02	05:21:15	68469	7871	-59598	-35	P	-a	0.9021	1.1903	0.2150	268.4	101.0	-	22S	157W
-2819	Dec 27	07:15:04	68455	7868	-59592	-30	T-	pp	-0.1617	2.6048	1.5184	370.3	229.7	97.4	23N	177E
-2818	Jun 21	21:20:23	68440	7865	-59586	-25	T+	-p	0.1494	2.5557	1.6116	316.1	209.4	94.5	21S	38W
-2818	Dec 16	06:38:43	68426	7862	-59580	-20	P	t-	0.5301	1.9362	0.8352	356.3	198.1	-	22N	175W
-2817	Jun 11	14:13:55	68412	7860	-59574	-15	P	a-	-0.5911	1.7515	0.7949	298.9	175.1	-	20S	68E
-2817	Dec 05	08:09:00	68397	7857	-59568	-10	N	a-	1.1888	0.7094	-0.3554	236.6	-	-	20N	161E
-2816	May 01	16:23:55	68385	7854	-59563	-43	N	-t	1.2840	0.5171	-0.5127	204.3	-	-	6S	39E
-2816	May 31	03:23:15	68383	7854	-59562	-5	N	t-	-1.3974	0.2958	-0.7079	152.6	-	-	18S	129W
-2816	Oct 25	04:42:48	68371	7851	-59557	-38	P	-a	-0.9538	1.1007	0.1151	256.8	73.6	-	3N	146W
-2815	Apr 20	19:22:46	68357	7849	-59551	-33	P	-t	0.5468	1.8883	0.8218	350.6	197.1	-	2S	5W
-2815	Oct 14	20:11:29	68343	7846	-59545	-28	T	-p	-0.2849	2.3213	1.3488	314.8	202.3	78.5	1S	18W
-2814	Apr 09	20:11:15	68328	7843	-59539	-23	T-	pp	-0.2209	2.4812	1.4246	365.0	227.9	92.5	2N	16W
-2814	Oct 04	10:35:16	68314	7840	-59533	-18	T	p-	0.3979	2.1300	1.1256	323.0	199.3	52.1	4S	126E
-2813	Mar 30	01:57:13	68300	7837	-59527	-13	P	a-	-0.9699	1.0830	0.0740	271.2	62.7	-	5N	102W
-2813	Sep 23	19:30:02	68285	7834	-59521	-8	N	t-	1.1440	0.7889	-0.2707	246.7	-	-	8S	8W
-2812	Feb 18	06:47:36	68273	7832	-59516	-41	P	-a	0.9034	1.1775	0.2231	259.0	100.0	-	20N	172W
-2812	Aug 13	03:21:24	68259	7829	-59510	-36	N	-t	-1.1074	0.8709	-0.2179	269.3	-	-	22S	125W
-2811	Feb 06	23:22:26	68245	7826	-59504	-31	T+	-p	0.2011	2.4706	1.5071	319.3	208.6	90.1	22N	61W
-2811	Aug 02	05:04:53	68230	7823	-59498	-26	T	-p	-0.3607	2.2219	1.1709	351.0	213.7	63.2	23S	152W
-2810	Jan 27	12:53:49	68216	7820	-59492	-21	P	a-	-0.5351	1.8822	0.8704	321.0	187.4	-	23N	95E
-2810	Jul 22	13:52:48	68202	7818	-59486	-16	T	a-	0.3928	2.1330	1.1413	324.5	201.7	55.6	24S	75E
-2809	Jan 16	19:33:11	68188	7815	-59480	-11	N	t-	-1.3079	0.4938	-0.5767	205.1	-	-	23N	6W
-2809	Jun 12	21:41:07	68176	7812	-59475	-44	N	-a	-1.4203	0.2226	-0.7193	123.4	-	-	21S	45W
-2809	Jul 12	04:51:01	68173	7812	-59474	-6	N	a-	1.0918	0.8302	-0.1213	225.7	-	-	23S	151W
-2809	Dec 07	01:12:40	68161	7809	-59469	-39	Nx	-t	0.9983	1.0748	-0.0215	291.3	-	-	20N	95W
-2808	Jun 01	14:02:18	68147	7807	-59463	-34	P	-a	-0.7223	1.5158	0.5492	290.3	153.1	-	18S	70E
-2808	Nov 25	04:27:48	68133	7804	-59457	-29	T	-p	0.2772	2.3741	1.3248	347.5	215.7	80.9	16N	144W
-2807	May 22	01:28:47	68118	7801	-59451	-24	T+	pp	0.0388	2.7962	1.7776	351.5	226.5	103.7	14S	101W
-2807	Nov 14	14:57:21	68104	7798	-59445	-19	T	a-	-0.4173	2.0899	1.0947	317.2	195.5	45.3	12N	58E
-2806	May 11	05:46:02	68090	7795	-59439	-14	P	t-	0.8357	1.3555	0.2940	315.0	127.9	-	9S	164W

-2806	Nov 04	05:59:44	68076	7792	-59433	-9	N	a-	-1.0601	0.8988	-0.0735	233.3	-	-	7N	167W
-2805	Mar 31	16:39:05	68064	7790	-59428	-42	N	t-	-1.2187	0.6454	-0.4012	229.3	-	-	4N	36E
-2805	Sep 25	08:32:34	68049	7787	-59422	-37	P	a-	1.0059	1.0216	0.0032	260.8	12.9	-	8S	156E
-2804	Mar 20	00:23:17	68035	7784	-59416	-32	T	p-	-0.4083	2.1062	1.1113	327.4	202.3	50.3	9N	79W
-2804	Sep 13	15:26:06	68021	7781	-59410	-27	T	p-	0.3307	2.2878	1.2154	357.7	217.1	70.1	12S	53E
-2803	Mar 09	14:36:14	68007	7779	-59404	-22	T	p-	0.3459	2.2001	1.2459	312.7	200.4	69.1	14N	69E
-2803	Sep 02	15:56:55	67992	7776	-59398	-17	T	t-	-0.3735	2.2214	1.1248	367.6	218.0	56.2	17S	45E
-2802	Jan 28	22:44:59	67980	7773	-59393	-50	Ne	a-	-1.5299	0.0387	-0.9373	53.7	-	-	21N	54W
-2802	Feb 27	07:28:15	67978	7773	-59392	-12	N	a-	1.0573	0.8941	-0.0584	232.8	-	-	18N	176E
-2802	Aug 22	16:21:21	67964	7770	-59386	-7	N	t-	-1.0629	0.9424	-0.1265	270.8	-	-	20S	39E
-2801	Jan 18	10:32:57	67952	7768	-59381	-40	P	a-	-0.8819	1.2557	0.2241	288.8	107.1	-	23N	128E
-2801	Jul 13	12:54:30	67938	7765	-59375	-35	P	a-	0.9563	1.0907	0.1156	259.0	74.9	-	23S	88E
-2800	Jan 07	14:57:39	67923	7762	-59369	-30	T-	pp-	-0.1835	2.5642	1.4790	370.2	229.3	95.5	24N	61E
-2800	Jul 02	04:57:17	67909	7759	-59363	-25	T+	p-	0.2121	2.4416	1.4956	314.6	206.9	89.1	23S	154W
-2800	Dec 26	14:24:14	67895	7756	-59357	-20	P	t-	0.5144	1.9632	0.8659	356.9	200.4	-	23N	67E

28TH CENTURY BCE

In the 28th century BCE the total number of lunar eclipses was 224 lunar eclipses:

82 penumbral lunar eclipses, 58 partial lunar eclipses, 84 total lunar eclipses
 (21 central total lunar eclipses, 63 non-central total lunar eclipses).

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN	
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG	
GREATEST S																
ECLIPSE																
-2799	Jun 21	21:37:15	67881	7753	-59351	-15	P	a-	-0.5236	1.8775	0.9166	305.5	184.5	-	22S	45W
-2799	Dec 15	16:20:06	67866	7751	-59345	-10	N	a-	1.1790	0.7248	-0.3348	237.8	-	-	22N	37E
-2798	May 12	22:59:28	67854	7748	-59340	-43	N	t-	1.3704	0.3603	-0.6730	173.8	-	-	9S	63W
-2798	Jun 11	10:19:21	67852	7748	-59339	-5	N	t-	-1.3284	0.4251	-0.5838	181.6	-	-	21S	124E
-2798	Nov 05	13:33:20	67840	7745	-59334	-38	P	a-	-0.9505	1.1059	0.1217	256.7	75.5	-	8N	79E

-2797	May 02	01:38:29	67826	7742	-59328	-33	P	-t	0.6360	1.7247	0.6580	342.4	181.6	-	6S	102W
-2797	Oct 26	05:03:45	67812	7740	-59322	-28	T	-p	-0.2850	2.3220	1.3478	315.1	202.4	78.4	4N	154W
-2796	Apr 20	02:37:21	67797	7737	-59316	-23	T-	pp	-0.1356	2.6358	1.5829	366.0	231.1	101.1	2S	116W
-2796	Oct 14	19:11:51	67783	7734	-59310	-18	T	p-	0.3961	2.1357	1.1268	324.5	199.8	52.5	0N	6W
-2795	Apr 09	08:55:28	67769	7731	-59304	-13	P	a-	-0.8930	1.2213	0.2177	282.2	105.0	-	1N	150E
-2795	Oct 04	03:38:13	67755	7728	-59298	-8	N	t-	1.1382	0.8023	-0.2625	249.4	-	-	4S	132W
-2794	Feb 28	14:37:33	67743	7726	-59293	-41	P	-a	0.9528	1.0847	0.1342	250.7	78.5	-	17N	68E
-2794	Aug 24	10:39:07	67728	7723	-59287	-36	N	-t	-1.1439	0.8054	-0.2863	260.7	-	-	20S	124E
-2793	Feb 18	07:19:25	67714	7720	-59281	-31	T+	-p	0.2456	2.3883	1.4261	318.4	206.9	85.4	19N	177E
-2793	Aug 13	12:31:29	67700	7717	-59275	-26	T	-p	-0.4024	2.1456	1.0943	347.6	209.1	48.0	22S	95E
-2792	Feb 07	20:40:45	67686	7715	-59269	-21	P	a-	-0.4982	1.9498	0.9379	324.9	192.8	-	21N	24W
-2792	Aug 01	21:36:53	67671	7712	-59263	-16	T	a-	0.3455	2.2198	1.2281	325.9	205.1	68.4	23S	43W
-2791	Jan 27	03:02:16	67657	7709	-59257	-11	N	t-	-1.2762	0.5514	-0.5181	216.0	-	-	22N	120W
-2791	Jun 23	05:12:42	67645	7706	-59252	-44	N	-a	-1.4845	0.1060	-0.8383	86.1	-	-	23S	159W
-2791	Jul 22	12:40:36	67643	7706	-59251	-6	N	a-	1.0400	0.9263	-0.0270	235.9	-	-	23S	91E
-2791	Dec 17	09:06:38	67631	7704	-59246	-39	Nx	-t	1.0068	1.0572	-0.0350	288.7	-	-	22N	145E
-2790	Jun 12	21:17:49	67617	7701	-59240	-34	P	-a	-0.7954	1.3840	0.4128	282.9	136.0	-	21S	41W
-2790	Dec 06	12:49:29	67603	7698	-59234	-29	T	-p	0.2789	2.3687	1.3242	345.9	215.1	80.6	19N	88E
-2789	Jun 02	08:13:45	67588	7695	-59228	-24	T-	pp	-0.0411	2.7944	1.7710	353.2	227.1	103.8	17S	155E
-2789	Nov 25	23:44:16	67574	7692	-59222	-19	T	a-	-0.4184	2.0863	1.0943	316.2	195.1	45.1	15N	76W
-2788	May 21	12:02:20	67560	7689	-59216	-14	P	t-	0.7486	1.5164	0.4528	327.8	155.2	-	13S	99E
-2788	Nov 14	14:55:10	67546	7687	-59210	-9	N	a-	-1.0631	0.8932	-0.0789	232.7	-	-	11N	57E
-2787	Apr 10	23:14:22	67534	7684	-59205	-42	N	-t	-1.2936	0.5055	-0.5363	204.8	-	-	0N	66W
-2787	May 10	12:43:02	67531	7684	-59204	-4	N	t-	1.4957	0.1437	-0.9158	115.5	-	-	9S	90E
-2787	Oct 05	16:59:42	67520	7681	-59199	-37	Nx	-a	1.0138	1.0098	-0.0138	260.7	-	-	3S	26E
-2786	Mar 31	07:32:54	67505	7679	-59193	-32	P	-h	-0.4761	1.9790	0.9897	321.3	194.7	-	5N	171E
-2786	Sep 24	23:21:48	67491	7676	-59187	-27	T	-p	0.3450	2.2641	1.1863	358.5	216.3	66.0	8S	69W
-2785	Mar 20	22:12:17	67477	7673	-59181	-22	T	p-	0.2848	2.3102	1.3600	314.5	204.3	80.3	10N	48W
-2785	Sep 13	23:30:00	67463	7670	-59175	-17	T	p-	-0.3493	2.2674	1.1676	369.4	220.2	64.2	13S	70W
-2784	Mar 09	15:13:08	67448	7667	-59169	-12	P	a-	1.0053	0.9888	0.0377	242.6	42.3	-	14N	58E
-2784	Sep 01	23:59:15	67434	7664	-59163	-7	Nx	t-	-1.0317	1.0001	-0.0695	276.6	-	-	17S	77W
-2783	Jan 28	18:20:59	67422	7662	-59158	-40	P	-a	-0.9171	1.1913	0.1597	284.2	91.5	-	22N	10E
-2783	Jul 23	20:36:17	67408	7659	-59152	-35	P	-a	1.0043	1.0028	0.0275	250.0	36.9	-	23S	29W
-2782	Jan 17	22:29:44	67394	7656	-59146	-30	T-	pp	-0.2134	2.5087	1.4250	369.8	228.3	92.2	24N	54W
-2782	Jul 13	12:41:51	67380	7654	-59140	-25	T+	-p	0.2687	2.3389	1.3907	312.8	203.9	82.3	24S	89E
-2781	Jan 06	22:00:35	67366	7651	-59134	-20	P	t-	0.4909	2.0042	0.9112	357.8	203.7	-	24N	48W
-2781	Jul 03	05:07:15	67351	7648	-59128	-15	T	a-	-0.4623	1.9925	1.0268	311.0	191.8	24.7	24S	159W
-2781	Dec 27	00:25:23	67337	7645	-59122	-10	N	a-	1.1638	0.7498	-0.3041	240.2	-	-	24N	85W
-2780	May 23	05:33:50	67325	7643	-59117	-43	N	-t	1.4563	0.2047	-0.8325	133.4	-	-	13S	165W
-2780	Jun 21	17:18:09	67323	7642	-59116	-5	N	t-	-1.2623	0.5493	-0.4653	205.0	-	-	23S	18E

-2780	Nov 15	22:24:19	67311	7640	-59111	-38	P	-a	-0.9475	1.1104	0.1282	256.6	77.3	-	12N	57W
-2779	May 12	07:51:53	67297	7637	-59105	-33	P	-t	0.7262	1.5594	0.4920	332.4	161.4	-	10S	161E
-2779	Nov 05	13:57:36	67283	7634	-59099	-28	T	-p	-0.2839	2.3246	1.3493	315.5	202.6	78.6	8N	70E
-2778	May 01	09:01:31	67268	7631	-59093	-23	T-	pp	-0.0479	2.7951	1.7454	365.9	232.5	105.2	6S	144E
-2778	Oct 26	03:52:05	67254	7629	-59087	-18	T	p-	0.3981	2.1339	1.1214	325.6	200.0	51.5	5N	139W
-2777	Apr 20	15:51:39	67240	7626	-59081	-13	P	a-	-0.8130	1.3656	0.3669	292.2	132.9	-	3S	43E
-2777	Oct 15	11:50:53	67226	7623	-59075	-8	N	t-	1.1367	0.8074	-0.2621	251.1	-	-	1N	102E
-2776	Mar 10	22:21:00	67214	7621	-59070	-41	P	-a	1.0081	0.9817	0.0345	240.8	40.3	-	14N	50W
-2776	Apr 09	05:33:11	67212	7620	-59069	-3	Nb	a-	-1.5072	0.0688	-0.8842	70.6	-	-	1N	162W
-2776	Sep 03	18:06:26	67200	7618	-59064	-36	N	-t	-1.1729	0.7535	-0.3408	253.4	-	-	17S	10E
-2775	Feb 28	15:06:48	67186	7615	-59058	-31	T	-p	0.2976	2.2923	1.3311	317.0	204.4	78.1	16N	58E
-2775	Aug 23	20:08:56	67172	7612	-59052	-26	T	-p	-0.4360	2.0840	1.0324	344.5	204.9	28.6	19S	21W
-2774	Feb 18	04:17:22	67157	7609	-59046	-21	T	a-	-0.4539	2.0313	1.0192	329.2	198.7	21.6	19N	140W
-2774	Aug 13	05:30:48	67143	7606	-59040	-16	T	p-	0.3057	2.2930	1.3010	326.8	207.3	76.4	21S	162W
-2773	Feb 07	10:21:34	67129	7604	-59034	-11	N	t-	-1.2373	0.6222	-0.4463	228.4	-	-	20N	129E
-2773	Aug 02	20:38:31	67115	7601	-59028	-6	P	a-	0.9948	1.0102	0.0548	244.0	50.7	-	22S	30W
-2773	Dec 28	16:56:01	67103	7598	-59023	-39	Nx	-t	1.0194	1.0317	-0.0559	285.1	-	-	24N	26E
-2772	Jun 23	04:35:54	67089	7596	-59017	-34	P	-a	-0.8654	1.2581	0.2818	274.8	114.9	-	23S	152W
-2772	Dec 16	21:08:18	67075	7593	-59011	-29	T	-p	0.2838	2.3570	1.3178	344.0	214.3	79.9	22N	38W
-2771	Jun 12	15:00:08	67060	7590	-59005	-24	T-	pp	-0.1188	2.6544	1.6258	354.1	226.4	100.8	20S	51E
-2771	Dec 06	08:27:13	67046	7587	-58999	-19	T	a-	-0.4157	2.0893	1.1010	315.3	195.1	46.5	19N	152E
-2770	Jun 01	18:21:23	67032	7584	-58993	-14	P	t-	0.6639	1.6732	0.6071	338.6	175.5	-	16S	1E
-2770	Nov 25	23:47:50	67018	7582	-58987	-9	N	a-	-1.0639	0.8915	-0.0801	232.5	-	-	15N	79W
-2769	Apr 22	05:49:22	67006	7579	-58982	-42	N	-t	-1.3690	0.3651	-0.6724	175.7	-	-	4S	168W
-2769	May 21	19:03:46	67004	7579	-58981	-4	N	t-	1.4093	0.3014	-0.7566	164.6	-	-	12S	9W
-2769	Oct 17	01:29:30	66992	7576	-58976	-37	Nx	-a	1.0187	1.0030	-0.0252	261.1	-	-	1N	104W
-2768	Apr 10	14:40:13	66978	7574	-58970	-32	P	-h	-0.5467	1.8469	0.8627	314.3	185.4	-	1N	61E
-2768	Oct 05	07:22:56	66963	7571	-58964	-27	T	-p	0.3541	2.2499	1.1673	359.4	215.8	63.0	4S	168E
-2767	Mar 31	05:41:09	66949	7568	-58958	-22	T+	p-	0.2173	2.4323	1.4856	316.0	207.6	89.0	6N	163W
-2767	Sep 24	07:12:49	66935	7565	-58952	-17	T	p-	-0.3331	2.2985	1.1960	370.6	221.5	68.7	9S	172E
-2766	Mar 20	22:48:49	66921	7562	-58946	-12	P	a-	0.9462	1.0967	0.1466	252.9	82.3	-	10N	59W
-2766	Sep 13	07:48:31	66907	7560	-58940	-7	Nx	h-	-1.0087	1.0424	-0.0276	280.5	-	-	14S	163E
-2765	Feb 09	01:57:14	66895	7557	-58935	-40	P	-h	-0.9608	1.1111	0.0795	277.8	65.5	-	20N	106W
-2765	Aug 04	04:28:09	66881	7554	-58929	-35	N	-a	1.0447	0.9289	-0.0469	241.9	-	-	22S	148W
-2764	Jan 29	05:52:10	66867	7552	-58923	-30	T-	-p	-0.2505	2.4395	1.3578	368.9	226.6	87.1	23N	165W
-2764	Jul 23	20:32:32	66853	7549	-58917	-25	T	-p	0.3199	2.2463	1.2952	311.0	200.7	73.9	24S	30W
-2763	Jan 17	05:30:19	66838	7546	-58911	-20	P	t-	0.4616	2.0555	0.9673	359.0	207.5	-	24N	161W
-2763	Jul 13	12:41:34	66824	7543	-58905	-15	T	p-	-0.4054	2.0994	1.1284	315.9	197.7	52.4	24S	86E
-2762	Jan 06	08:24:24	66810	7540	-58899	-10	N	a-	1.1427	0.7854	-0.2623	243.9	-	-	25N	154E
-2762	Jun 03	12:08:26	66798	7538	-58894	-43	Ne	-t	1.5404	0.0527	-0.9889	68.9	-	-	16S	94E

-2762	Jul 03	00:21:04	66796	7538	-58893	-5	N	t-	-1.2003	0.6661	-0.3546	224.3	-	-	24S	90W
-2762	Nov 27	07:14:38	66784	7535	-58888	-38	P	-a	-0.9452	1.1135	0.1337	256.3	78.8	-	15N	169E
-2761	May 23	14:06:34	66770	7532	-58882	-33	P	-t	0.8151	1.3969	0.3286	320.8	135.3	-	14S	64E
-2761	Nov 16	22:50:58	66756	7530	-58876	-28	T	-p	-0.2829	2.3268	1.3508	315.9	202.8	78.8	12N	66W
-2760	May 11	15:27:27	66742	7527	-58870	-23	T+	pp	0.0390	2.8100	1.7631	364.7	232.1	105.3	10S	45E
-2760	Nov 05	12:32:35	66727	7524	-58864	-18	T	p-	0.4008	2.1306	1.1147	326.7	200.2	50.3	9N	88E
-2759	Apr 30	22:47:01	66713	7521	-58858	-13	P	a-	-0.7310	1.5139	0.5194	300.9	154.0	-	7S	65W
-2759	Oct 25	20:05:45	66699	7518	-58852	-8	N	t-	1.1376	0.8077	-0.2657	252.1	-	-	5N	25W
-2758	Mar 22	05:57:56	66687	7516	-58847	-41	N	-a	1.0689	0.8687	-0.0756	229.0	-	-	10N	167W
-2758	Apr 20	12:53:19	66685	7516	-58846	-3	N	a-	-1.4337	0.2022	-0.7477	119.3	-	-	4S	84E
-2758	Sep 15	01:42:55	66673	7513	-58841	-36	N	-t	-1.1946	0.7148	-0.3816	247.7	-	-	13S	106W
-2757	Mar 11	22:46:09	66659	7510	-58835	-31	T	-a	0.3559	2.1852	1.2245	315.1	200.8	66.9	13N	59W
-2757	Sep 04	03:57:24	66645	7508	-58829	-26	P	-t	-0.4613	2.0377	0.9859	341.7	201.4	-	16S	140W
-2756	Feb 29	11:43:24	66631	7505	-58823	-21	T	p-	-0.4016	2.1274	1.1149	333.7	204.8	51.5	16N	107E
-2756	Aug 23	13:34:26	66617	7502	-58817	-16	T	p-	0.2732	2.3527	1.3604	327.2	208.8	81.6	19S	75E
-2755	Feb 17	17:28:53	66603	7499	-58811	-11	N	t-	-1.1893	0.7098	-0.3574	242.3	-	-	18N	20E
-2755	Aug 13	04:45:33	66589	7496	-58805	-6	P	a-	0.9570	1.0808	0.1229	250.4	75.1	-	20S	154W
-2754	Jan 08	00:36:13	66577	7494	-58800	-39	N	-t	1.0399	0.9914	-0.0909	279.7	-	-	25N	90W
-2754	Jul 04	11:59:04	66563	7491	-58794	-34	P	-a	-0.9303	1.1418	0.1599	266.4	88.3	-	24S	95E
-2754	Dec 28	05:21:33	66548	7488	-58788	-29	T	-p	0.2944	2.3346	1.3012	341.9	213.1	78.1	23N	162W
-2753	Jun 23	21:49:11	66534	7486	-58782	-24	T-	pp	-0.1933	2.5206	1.4864	354.2	224.3	94.7	22S	53W
-2753	Dec 17	17:07:00	66520	7483	-58776	-19	T	a-	-0.4100	2.0979	1.1135	314.6	195.4	49.0	21N	20E
-2752	Jun 12	00:42:16	66506	7480	-58770	-14	P	t-	0.5804	1.8278	0.7588	347.8	191.4	-	19S	96W
-2752	Dec 06	08:38:23	66492	7477	-58764	-9	N	a-	-1.0635	0.8917	-0.0788	232.6	-	-	18N	147E
-2751	May 02	12:22:07	66480	7475	-58759	-42	N	-t	-1.4464	0.2210	-0.8126	137.9	-	-	8S	90E
-2751	Jun 01	01:25:56	66478	7474	-58758	-4	N	t-	1.3229	0.4593	-0.5976	199.7	-	-	16S	107W
-2751	Oct 27	10:02:53	66466	7472	-58753	-37	Nx	-a	1.0199	1.0030	-0.0294	262.1	-	-	6N	125E
-2750	Apr 21	21:45:48	66452	7469	-58747	-32	P	-h	-0.6195	1.7111	0.7314	306.5	174.0	-	4S	49W
-2750	Oct 16	15:27:57	66438	7467	-58741	-27	T	-p	0.3591	2.2427	1.1560	360.4	215.7	61.2	1N	44E
-2749	Apr 11	13:08:06	66424	7464	-58735	-22	T+	p-	0.1479	2.5584	1.6144	317.1	210.1	94.9	1N	81E
-2749	Oct 05	15:02:15	66410	7461	-58729	-17	T	p-	-0.3222	2.3196	1.2150	371.3	222.3	71.4	4S	52E
-2748	Mar 31	06:19:33	66395	7458	-58723	-12	P	a-	0.8834	1.2118	0.2620	262.9	108.4	-	6N	175W
-2748	Sep 23	15:45:56	66381	7455	-58717	-7	P	h-	-0.9917	1.0737	0.0037	282.9	14.5	-	10S	41E
-2747	Feb 19	09:23:43	66370	7453	-58712	-40	Nx	-h	-1.0113	1.0184	-0.0133	269.6	-	-	18N	141E
-2747	Aug 14	12:29:37	66356	7450	-58706	-35	N	-a	1.0777	0.8688	-0.1077	234.9	-	-	20S	90E
-2746	Feb 08	13:02:39	66341	7447	-58700	-30	T	-p	-0.2967	2.3539	1.2741	367.3	223.9	78.8	21N	86E
-2746	Aug 04	04:32:39	66327	7445	-58694	-25	T	-p	0.3631	2.1686	1.2144	309.3	197.4	64.6	22S	152W
-2745	Jan 28	12:50:11	66313	7442	-58688	-20	T	t-	0.4242	2.1215	1.0384	360.5	211.8	31.9	23N	88E
-2745	Jul 24	20:22:46	66299	7439	-58682	-15	T	p-	-0.3552	2.1944	1.2179	319.9	202.3	66.5	24S	30W
-2744	Jan 17	16:15:58	66285	7436	-58676	-10	N	a-	1.1149	0.8331	-0.2081	248.8	-	-	25N	35E

-2744	Jul 13	07:29:28	66271	7433	-58670	-5	N	t-	-1.1437	0.7731	-0.2541	240.3	-	-	25S	162E
-2744	Dec 07	16:01:05	66259	7431	-58665	-38	P	a-	-0.9467	1.1092	0.1324	255.4	78.3	-	19N	35E
-2743	Jun 02	20:22:02	66245	7428	-58659	-33	P	t-	0.9028	1.2366	0.1668	307.5	98.8	-	17S	32W
-2743	Nov 27	07:42:23	66231	7426	-58653	-28	T	p-	-0.2834	2.3260	1.3498	316.3	203.0	78.8	16N	159E
-2742	May 22	21:55:32	66217	7423	-58647	-23	T+	pp	0.1252	2.6508	1.6062	362.4	229.9	101.4	14S	55W
-2742	Nov 16	21:12:08	66203	7420	-58641	-18	T	p-	0.4036	2.1268	1.1084	327.8	200.4	49.1	13N	44W
-2741	May 12	05:44:00	66189	7417	-58635	-13	P	a-	-0.6492	1.6622	0.6714	308.3	170.2	-	11S	172W
-2741	Nov 06	04:22:33	66175	7414	-58629	-8	N	t-	1.1408	0.8034	-0.2731	252.3	-	-	10N	152W
-2740	Apr 01	13:29:02	66163	7412	-58624	-41	N	a-	1.1346	0.7468	-0.1951	214.8	-	-	6N	77E
-2740	Apr 30	20:11:00	66161	7412	-58623	-3	N	a-	-1.3574	0.3408	-0.6066	152.5	-	-	8S	28W
-2740	Sep 25	09:28:21	66149	7409	-58618	-36	N	t-	-1.2093	0.6886	-0.4095	243.5	-	-	9S	135E
-2739	Mar 22	06:17:36	66135	7406	-58612	-31	T	a-	0.4201	2.0673	1.1066	312.3	195.7	47.9	9N	175W
-2739	Sep 14	11:56:05	66121	7404	-58606	-26	P	-h	-0.4793	2.0046	0.9529	339.4	198.6	-	13S	98E
-2738	Mar 11	18:59:31	66107	7401	-58600	-21	T	p-	-0.3420	2.2371	1.2239	338.2	210.7	69.6	12N	5W
-2738	Sep 03	21:48:06	66093	7398	-58594	-16	T+	p-	0.2482	2.3988	1.4062	327.2	209.6	84.9	16S	51W
-2737	Mar 01	00:27:24	66078	7395	-58588	-11	N	t-	-1.1343	0.8100	-0.2562	256.8	-	-	15N	87W
-2737	Aug 24	12:59:52	66064	7393	-58582	-6	P	a-	0.9250	1.1407	0.1803	255.6	90.2	-	18S	81E
-2736	Jan 19	08:10:20	66053	7390	-58577	-39	N	t-	1.0659	0.9409	-0.1358	273.0	-	-	25N	156E
-2736	Jul 14	19:27:14	66039	7387	-58571	-34	P	a-	-0.9905	1.0345	0.0467	257.7	48.6	-	25S	18W
-2735	Jan 07	13:28:08	66025	7385	-58565	-29	T	-p	0.3113	2.3005	1.2734	339.4	211.5	75.0	24N	75E
-2735	Jul 04	04:42:33	66010	7382	-58559	-24	T-	-p	-0.2631	2.3954	1.3552	353.7	221.1	85.4	24S	158W
-2735	Dec 28	01:40:13	65996	7379	-58553	-19	T	p-	-0.3982	2.1172	1.1373	314.2	196.2	53.5	23N	109W
-2734	Jun 23	07:09:21	65982	7376	-58547	-14	P	t-	0.5022	1.9729	0.9008	355.3	203.5	-	22S	165E
-2734	Dec 17	17:22:24	65968	7374	-58541	-9	N	a-	-1.0580	0.9011	-0.0680	233.6	-	-	20N	14E
-2733	May 13	18:58:20	65957	7371	-58536	-42	Ne	t-	-1.5216	0.0814	-0.9489	84.4	-	-	12S	12W
-2733	Jun 12	07:55:34	65954	7371	-58535	-4	N	t-	1.2411	0.6091	-0.4472	226.2	-	-	19S	153E
-2733	Nov 07	18:36:13	65942	7368	-58530	-37	Nx	a-	1.0206	1.0035	-0.0323	263.2	-	-	10N	6W
-2732	May 02	04:50:29	65928	7366	-58524	-32	P	a-	-0.6939	1.5726	0.5967	297.6	160.1	-	8S	159W
-2732	Oct 26	23:36:07	65914	7363	-58518	-27	T	-p	0.3610	2.2410	1.1510	361.5	215.9	60.4	5N	80W
-2731	Apr 21	20:30:41	65900	7360	-58512	-22	T+	pp	0.0742	2.6926	1.7506	317.6	211.5	98.5	3S	33W
-2731	Oct 15	22:58:09	65886	7357	-58506	-17	T	p-	-0.3164	2.3308	1.2250	371.5	222.6	72.7	0N	70W
-2730	Apr 11	13:43:12	65872	7355	-58500	-12	P	a-	0.8151	1.3373	0.3871	272.8	129.6	-	2N	71E
-2730	Oct 04	23:53:03	65858	7352	-58494	-7	P	h-	-0.9815	1.0920	0.0226	284.0	35.9	-	5S	83W
-2729	Mar 02	16:39:15	65846	7349	-58489	-40	N	-h	-1.0696	0.9116	-0.1203	258.8	-	-	14N	29E
-2729	Aug 25	20:39:55	65832	7347	-58483	-35	N	a-	1.1041	0.8207	-0.1567	229.0	-	-	17S	35W
-2728	Feb 19	20:03:33	65818	7344	-58477	-30	T	t-	-0.3501	2.2547	1.1771	364.9	219.9	65.7	18N	22W
-2728	Aug 14	12:39:56	65804	7341	-58471	-25	T	-p	0.4001	2.1025	1.1449	307.8	194.3	54.3	21S	85E
-2727	Feb 07	20:01:08	65790	7338	-58465	-20	T	t-	0.3789	2.2020	1.1242	362.1	216.4	55.8	22N	21W
-2727	Aug 04	04:10:19	65776	7336	-58459	-15	T	p-	-0.3110	2.2786	1.2961	323.4	205.9	75.6	23S	149W
-2726	Jan 28	00:00:30	65762	7333	-58453	-10	N	a-	1.0804	0.8929	-0.1415	254.8	-	-	24N	82W

-2726	Jul 24	14:43:42	65748	7330	-58447	-5	N	t-	-1.0924	0.8706	-0.1632	253.7	-	-	25S	52E
-2726	Dec 19	00:43:09	65736	7328	-58442	-38	P	-a	-0.9522	1.0974	0.1239	253.9	75.7	-	21N	97W
-2725	Jun 14	02:42:50	65722	7325	-58436	-33	P	-t	0.9859	1.0850	0.0135	292.9	28.7	-	19S	130W
-2725	Dec 08	16:30:40	65708	7322	-58430	-28	T	-p	-0.2862	2.3208	1.3448	316.6	203.1	78.5	19N	25E
-2724	Jun 02	04:27:21	65694	7319	-58424	-23	T+	pp	0.2091	2.4959	1.4532	359.0	226.0	93.6	17S	156W
-2724	Nov 27	05:49:07	65680	7317	-58418	-18	T	p-	0.4050	2.1253	1.1047	328.9	200.8	48.5	17N	175W
-2723	May 22	12:43:42	65666	7314	-58412	-13	P	a-	-0.5686	1.8084	0.8207	314.3	182.9	-	15S	80E
-2723	Nov 16	12:36:51	65652	7311	-58406	-8	N	t-	1.1427	0.8011	-0.2778	252.8	-	-	14N	82E
-2722	Apr 12	20:56:16	65641	7309	-58401	-41	N	-a	1.2037	0.6193	-0.3209	198.0	-	-	2N	38W
-2722	May 12	03:29:52	65638	7308	-58400	-3	N	a-	-1.2817	0.4789	-0.4668	178.0	-	-	12S	141W
-2722	Oct 06	17:21:12	65627	7306	-58395	-36	N	-t	-1.2182	0.6727	-0.4263	240.8	-	-	5S	14E
-2721	Apr 02	13:42:55	65612	7303	-58389	-31	P	-a	0.4890	1.9412	0.9799	308.7	189.0	-	5N	71E
-2721	Sep 25	20:02:55	65598	7301	-58383	-26	P	-a	-0.4915	1.9819	0.9308	337.4	196.5	-	8S	26W
-2720	Mar 22	02:06:41	65584	7298	-58377	-21	T	pp	-0.2759	2.3589	1.3446	342.5	216.2	83.0	8N	115W
-2720	Sep 14	06:10:49	65570	7295	-58371	-16	T+	p-	0.2301	2.4321	1.4394	326.9	210.0	87.0	12S	179W
-2719	Mar 11	07:13:27	65556	7292	-58365	-11	N	t-	-1.0698	0.9280	-0.1373	272.0	-	-	12N	169E
-2719	Sep 03	21:23:54	65542	7289	-58359	-6	P	a-	0.9011	1.1859	0.2229	259.3	99.6	-	15S	47W
-2718	Jan 29	15:34:25	65531	7287	-58354	-39	N	-t	1.1004	0.8746	-0.1961	264.0	-	-	24N	44E
-2718	Jul 26	03:02:18	65517	7284	-58348	-34	N	-a	-1.0438	0.9398	-0.0543	249.3	-	-	25S	133W
-2717	Jan 18	21:27:23	65503	7282	-58342	-29	T	-p	0.3350	2.2537	1.2331	336.5	209.3	70.1	24N	46W
-2717	Jul 15	11:42:03	65489	7279	-58336	-24	T	-t	-0.3269	2.2815	1.2351	352.7	217.0	72.7	24S	96E
-2716	Jan 08	10:08:09	65475	7276	-58330	-19	T	p-	-0.3818	2.1449	1.1696	314.1	197.4	58.8	24N	123E
-2716	Jul 03	13:40:36	65461	7273	-58324	-14	T	t-	0.4274	2.1119	1.0363	361.4	213.0	31.3	23S	65E
-2716	Dec 28	02:01:56	65446	7271	-58318	-9	N	a-	-1.0493	0.9163	-0.0512	235.3	-	-	22N	117W
-2715	Jun 22	14:30:31	65433	7268	-58312	-4	N	t-	1.1624	0.7534	-0.3026	247.4	-	-	21S	52E
-2715	Nov 18	03:08:49	65421	7265	-58307	-37	Nx	-a	1.0209	1.0042	-0.0343	264.2	-	-	14N	136W
-2714	May 13	11:56:43	65407	7263	-58301	-32	P	-a	-0.7677	1.4355	0.4629	287.8	143.5	-	12S	91E
-2714	Nov 07	07:45:25	65393	7260	-58295	-27	T	-p	0.3615	2.2414	1.1489	362.5	216.2	60.1	10N	155E
-2713	May 03	03:52:57	65379	7257	-58289	-22	T+	pp	0.0001	2.8277	1.8872	317.6	212.0	99.7	7S	147W
-2713	Oct 27	06:56:56	65365	7254	-58283	-17	T	p-	-0.3129	2.3374	1.2311	371.5	222.8	73.5	5N	167E
-2712	Apr 21	21:04:02	65351	7252	-58277	-12	P	a-	0.7449	1.4665	0.5154	282.0	147.0	-	3S	43W
-2712	Oct 15	08:05:32	65337	7249	-58271	-7	P	a-	-0.9754	1.1027	0.0346	284.2	44.2	-	1S	151E
-2711	Mar 12	23:44:08	65325	7247	-58266	-40	N	-t	-1.1350	0.7918	-0.2407	245.0	-	-	11N	80W
-2711	Apr 11	10:51:19	65323	7246	-58265	-2	Nb	t-	1.5498	0.0136	-0.9847	33.3	-	-	2N	111E
-2711	Sep 05	04:59:39	65311	7244	-58260	-35	N	-a	1.1234	0.7858	-0.1924	224.4	-	-	14S	162W
-2710	Mar 02	02:53:35	65297	7241	-58254	-30	T	-t	-0.4116	2.1410	1.0653	361.5	214.1	41.5	15N	126W
-2710	Aug 25	20:55:56	65283	7238	-58248	-25	T	-a	0.4296	2.0501	1.0890	306.5	191.5	43.3	18S	41W
-2709	Feb 19	03:03:00	65269	7236	-58242	-20	T	t-	0.3258	2.2967	1.2243	363.6	221.0	72.4	19N	129W
-2709	Aug 15	12:06:18	65255	7233	-58236	-15	T	p-	-0.2747	2.3482	1.3597	326.4	208.6	81.5	21S	91E
-2708	Feb 08	07:36:31	65241	7230	-58230	-10	N	a-	1.0382	0.9669	-0.0606	261.8	-	-	22N	163E

-2708 Aug 03	22:04:56	65227	7227	-58224	-5	N	t-	-1.0477	0.9561	-0.0845	264.9	-	-	24S	59W
-2708 Dec 29	09:19:09	65216	7225	-58219	-38	P	-a	-0.9630	1.0759	0.1061	251.5	70.2	-	22N	133E
-2707 Jun 24	09:08:31	65202	7222	-58213	-33	N	-t	1.0644	0.9421	-0.1315	277.1	-	-	21S	132E
-2707 Dec 19	01:12:42	65188	7220	-58207	-28	T	-p	-0.2937	2.3067	1.3313	316.7	202.9	77.4	22N	106W
-2706 Jun 13	11:05:14	65174	7217	-58201	-23	T	pp	0.2885	2.3494	1.3080	354.9	220.6	81.4	20S	102E
-2706 Dec 08	14:22:11	65160	7214	-58195	-18	T	p-	0.4044	2.1270	1.1050	330.0	201.4	48.6	20N	55E
-2705 Jun 02	19:46:50	65146	7211	-58189	-13	P	a-	-0.4899	1.9516	0.9663	319.2	192.8	-	18S	28W
-2705 Nov 27	20:49:31	65132	7208	-58183	-8	N	t-	1.1441	0.7993	-0.2812	253.3	-	-	17N	43W
-2704 Apr 23	04:20:01	65120	7206	-58178	-41	N	-a	1.2754	0.4872	-0.4520	177.9	-	-	3S	153W
-2704 May 22	10:49:04	65118	7206	-58177	-3	N	a-	-1.2059	0.6174	-0.3272	199.0	-	-	15S	106E
-2704 Oct 17	01:20:37	65106	7203	-58172	-36	N	-t	-1.2224	0.6652	-0.4340	239.3	-	-	0N	109W
-2703 Apr 12	21:01:06	65092	7201	-58166	-31	P	-a	0.5632	1.8057	0.8433	304.0	180.1	-	1N	42W
-2703 Oct 06	04:18:27	65078	7198	-58160	-26	P	-a	-0.4974	1.9705	0.9204	335.8	195.2	-	4S	153W
-2702 Apr 02	09:06:13	65064	7195	-58154	-21	T-	pp	-0.2045	2.4907	1.4749	346.4	220.8	93.0	4N	137E
-2702 Sep 25	14:40:59	65050	7192	-58148	-16	T+	p-	0.2175	2.4552	1.4625	326.5	210.0	88.2	8S	51E
-2701 Mar 22	13:52:51	65036	7190	-58142	-11	Nx	t-	-1.0002	1.0554	-0.0092	286.8	-	-	8N	66E
-2701 Sep 15	05:54:58	65022	7187	-58136	-6	P	a-	0.8832	1.2201	0.2546	262.1	106.0	-	11S	177W
-2700 Feb 09	22:51:34	65011	7185	-58131	-39	N	-t	1.1409	0.7971	-0.2675	253.0	-	-	22N	67W
-2700 Aug 05	10:43:31	64997	7182	-58125	-34	N	-a	-1.0912	0.8561	-0.1444	241.1	-	-	24S	110E

27TH CENTURY BCE

In the 27th century BCE the total number of lunar eclipses was 229 lunar eclipses:

73 penumbral lunar eclipses, 77 partial lunar eclipses, 79 total lunar eclipses
 (34 central total lunar eclipses, 45 non-central total lunar eclipses).

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG
GREATEST			S							m	m	m	°	°	
ECLIPSE															

-2699 Jan 29 05:19:29 64983 7179 -58119 -29 T -p 0.3656 2.1941 1.1802 333.2 206.3 62.6 23N 165W

-2699	Jul 25	18:48:25	64969	7176	-58113	-24	T	t-	-0.3842	2.1797	1.1270	351.4	212.4	55.5	24S	12W
-2698	Jan 18	18:26:55	64955	7174	-58107	-19	T	p-	-0.3572	2.1877	1.2172	314.3	199.3	65.4	23N	3W
-2698	Jul 14	20:21:07	64941	7171	-58101	-14	T	t-	0.3600	2.2373	1.1582	366.1	219.9	62.8	24S	36W
-2697	Jan 08	10:33:19	64927	7168	-58095	-9	N	a-	-1.0339	0.9436	-0.0221	238.2	-	-	23N	114E
-2697	Jul 03	21:13:57	64913	7165	-58089	-4	N	t-	1.0892	0.8878	-0.1682	264.3	-	-	22S	50W
-2697	Nov 29	11:37:38	64901	7163	-58084	-37	Nx	a-	1.0238	1.0000	-0.0406	264.7	-	-	18N	95E
-2696	May 23	19:04:52	64887	7160	-58078	-32	P	a-	-0.8409	1.2999	0.3298	277.2	123.2	-	15S	19W
-2696	Nov 17	15:53:18	64873	7158	-58072	-27	T	p-	0.3623	2.2407	1.1467	363.3	216.4	59.8	14N	30E
-2695	May 13	11:13:09	64860	7155	-58066	-22	T-	pp	-0.0758	2.6886	1.7488	316.9	211.2	98.4	11S	100E
-2695	Nov 06	14:59:00	64846	7152	-58060	-17	T	p-	-0.3119	2.3391	1.2333	371.3	222.7	73.7	9N	44E
-2694	May 03	04:20:56	64832	7149	-58054	-12	P	a-	0.6721	1.6009	0.6482	290.6	161.8	-	7S	156W
-2694	Oct 26	16:23:14	64818	7147	-58048	-7	P	a-	-0.9725	1.1070	0.0407	283.7	47.8	-	4N	24E
-2693	Mar 24	06:40:11	64806	7144	-58043	-40	N	t-	-1.2063	0.6614	-0.3720	227.7	-	-	7N	173E
-2693	Apr 22	17:48:17	64804	7144	-58042	-2	N	t-	1.4816	0.1400	-0.8609	106.2	-	-	2S	4E
-2693	Sep 16	13:28:08	64792	7142	-58037	-35	N	a-	1.1361	0.7628	-0.2162	221.2	-	-	10S	69E
-2692	Mar 12	09:34:25	64778	7139	-58031	-30	P	t-	-0.4801	2.0141	0.9406	356.8	206.3	-	12N	131E
-2692	Sep 05	05:19:35	64764	7136	-58025	-25	T	a-	0.4526	2.0096	1.0450	305.6	189.2	31.2	15S	169W
-2691	Mar 01	09:57:17	64750	7133	-58019	-20	T+	p-	0.2657	2.4042	1.3373	365.0	225.1	85.2	16N	126E
-2691	Aug 25	20:09:32	64736	7131	-58013	-15	T-	p-	-0.2452	2.4053	1.4107	329.0	210.7	85.6	19S	32W
-2690	Feb 18	15:05:31	64723	7128	-58007	-10	P	a-	0.9892	1.0534	0.0327	269.4	42.0	-	20N	49E
-2690	Aug 15	05:33:58	64709	7125	-58001	-5	Nx	t-	-1.0101	1.0286	-0.0188	274.0	-	-	22S	173W
-2689	Jan 09	17:49:27	64697	7123	-57996	-38	P	a-	-0.9785	1.0454	0.0793	248.3	60.8	-	23N	5E
-2689	Jul 05	15:40:59	64683	7120	-57990	-33	N	t-	1.1371	0.8098	-0.2660	260.4	-	-	23S	32E
-2689	Dec 30	09:49:12	64669	7118	-57984	-28	T	p-	-0.3055	2.2847	1.3101	316.6	202.5	75.6	23N	123E
-2688	Jun 23	17:50:10	64655	7115	-57978	-23	T	p-	0.3628	2.2126	1.1722	350.1	214.1	63.6	22S	1W
-2688	Dec 18	22:48:15	64641	7112	-57972	-18	T	p-	0.3986	2.1382	1.1151	331.5	202.5	50.9	22N	73W
-2687	Jun 13	02:55:40	64627	7109	-57966	-13	T	a-	-0.4148	2.0885	1.1051	322.8	200.3	48.6	20S	138W
-2687	Dec 08	04:56:09	64613	7107	-57960	-8	N	t-	1.1413	0.8049	-0.2765	254.7	-	-	21N	166W
-2686	May 04	11:42:57	64602	7104	-57955	-41	N	a-	1.3478	0.3541	-0.5848	153.6	-	-	7S	93E
-2686	Jun 02	18:12:25	64600	7104	-57954	-3	N	a-	-1.1329	0.7512	-0.1931	216.3	-	-	19S	7W
-2686	Oct 28	09:22:48	64588	7102	-57949	-36	N	t-	-1.2247	0.6607	-0.4379	238.2	-	-	5N	128E
-2685	Apr 24	04:16:07	64574	7099	-57943	-31	P	a-	0.6392	1.6670	0.7029	298.3	168.8	-	3S	154W
-2685	Oct 17	12:40:08	64560	7096	-57937	-26	P	a-	-0.4992	1.9665	0.9180	334.5	194.4	-	0N	79E
-2684	Apr 12	15:57:35	64546	7093	-57931	-21	T-	pp	-0.1273	2.6334	1.6156	349.7	224.5	99.9	0N	31E
-2684	Oct 05	23:18:49	64532	7091	-57925	-16	T+	p-	0.2108	2.4674	1.4751	325.8	209.8	88.7	3S	81W
-2683	Apr 01	20:22:25	64518	7088	-57919	-11	P	t-	-0.9230	1.1968	0.1326	301.3	87.9	-	4N	35W
-2683	Sep 25	14:34:17	64505	7085	-57913	-6	P	a-	0.8720	1.2417	0.2739	263.9	109.6	-	7S	50E
-2682	Feb 20	05:58:45	64493	7083	-57908	-39	N	t-	1.1901	0.7039	-0.3545	239.0	-	-	19N	175W
-2682	Aug 16	18:33:23	64479	7080	-57902	-34	N	a-	-1.1307	0.7869	-0.2203	233.9	-	-	22S	9W
-2681	Feb 09	13:04:11	64465	7077	-57896	-29	T	p-	0.4034	2.1214	1.1142	329.3	202.5	50.8	21N	78E

-2681	Aug 06	02:01:04	64451	7075	-57890	-24	T	-t	-0.4354	2.0890	1.0297	350.0	207.4	27.7	23S	122W
-2680	Jan 30	02:39:32	64437	7072	-57884	-19	T	p-	-0.3270	2.2407	1.2750	314.8	201.4	72.2	22N	127W
-2680	Jul 25	03:08:34	64423	7069	-57878	-14	T	p-	0.2980	2.3529	1.2701	369.8	225.0	78.8	23S	139W
-2679	Jan 18	18:56:54	64410	7067	-57872	-9	P	a-	-1.0127	0.9815	0.0178	242.1	29.1	-	23N	13W
-2679	Jul 14	04:05:36	64396	7064	-57866	-4	Nx	t-	1.0215	1.0120	-0.0443	277.9	-	-	23S	155W
-2679	Dec 09	20:02:13	64384	7062	-57861	-37	N	-a	1.0293	0.9906	-0.0516	264.6	-	-	21N	33W
-2678	Jun 04	02:17:27	64370	7059	-57855	-32	P	-a	-0.9110	1.1704	0.2023	265.9	98.0	-	19S	129W
-2678	Nov 28	23:57:53	64356	7056	-57849	-27	T	-t	0.3653	2.2356	1.1408	363.9	216.5	58.8	17N	93W
-2677	May 24	18:36:06	64342	7053	-57843	-22	T-	-p	-0.1495	2.5532	1.6134	315.6	209.5	94.7	15S	14W
-2677	Nov 17	23:01:01	64328	7051	-57837	-17	T	p-	-0.3106	2.3409	1.2363	370.8	222.7	74.1	13N	79W
-2676	May 13	11:36:02	64314	7048	-57831	-12	P	a-	0.5984	1.7374	0.7824	298.5	174.3	-	11S	92E
-2676	Nov 06	00:43:41	64301	7045	-57825	-7	P	a-	-0.9712	1.1081	0.0444	282.8	49.7	-	8N	104W
-2675	Apr 03	13:28:06	64289	7043	-57820	-40	N	-t	-1.2830	0.5213	-0.5134	205.6	-	-	3N	68E
-2675	May 03	00:41:07	64287	7042	-57819	-2	N	t-	1.4106	0.2719	-0.7321	146.9	-	-	6S	103W
-2675	Sep 26	22:04:01	64275	7040	-57814	-35	N	-a	1.1435	0.7495	-0.2299	219.2	-	-	6S	63W
-2674	Mar 23	16:06:37	64261	7037	-57808	-30	P	-t	-0.5552	1.8755	0.8036	350.7	195.6	-	8N	30E
-2674	Sep 16	13:51:26	64247	7035	-57802	-25	T	-a	0.4689	1.9816	1.0135	305.1	187.5	17.3	11S	61E
-2673	Mar 12	16:44:23	64234	7032	-57796	-20	T+	pp	0.1992	2.5236	1.4620	365.9	228.6	94.8	12N	21E
-2673	Sep 06	04:19:59	64220	7029	-57790	-15	T-	p-	-0.2225	2.4500	1.4494	331.3	212.2	88.3	15S	156W
-2672	Feb 29	22:27:18	64206	7027	-57784	-10	P	a-	0.9333	1.1526	0.1386	277.4	84.9	-	17N	64W
-2672	Aug 25	13:11:12	64192	7024	-57778	-5	P	t-	-0.9800	1.0872	0.0330	281.2	43.2	-	19S	71E
-2671	Jan 20	02:10:27	64180	7022	-57773	-38	P	-a	-1.0021	1.0002	0.0380	243.6	42.3	-	23N	122W
-2671	Jul 15	22:21:51	64167	7019	-57767	-33	N	-t	1.2028	0.6905	-0.3877	243.3	-	-	23S	69W
-2670	Jan 09	18:17:22	64153	7016	-57761	-28	T	-p	-0.3237	2.2506	1.2771	316.3	201.7	72.4	24N	5W
-2670	Jul 05	00:43:46	64139	7013	-57755	-23	T	-t	0.4310	2.0872	1.0475	344.8	206.8	34.6	23S	106W
-2670	Dec 30	07:07:15	64125	7011	-57749	-18	T	p-	0.3879	2.1581	1.1344	333.2	204.1	54.8	24N	161E
-2669	Jun 24	10:11:06	64111	7008	-57743	-13	T	a-	-0.3443	2.2172	1.2351	325.4	205.8	69.5	22S	111E
-2669	Dec 19	12:58:00	64097	7005	-57737	-8	N	t-	1.1352	0.8163	-0.2653	256.8	-	-	23N	72E
-2668	May 14	19:03:42	64086	7003	-57732	-41	N	-a	1.4219	0.2183	-0.7209	122.2	-	-	10S	20W
-2668	Jun 13	01:37:43	64083	7003	-57731	-3	N	a-	-1.0612	0.8829	-0.0617	231.1	-	-	21S	121W
-2668	Nov 07	17:29:14	64072	7000	-57726	-36	N	-t	-1.2239	0.6613	-0.4359	237.9	-	-	9N	4E
-2667	May 04	11:26:56	64058	6998	-57720	-31	P	-a	0.7178	1.5241	0.5575	291.3	154.3	-	7S	95E
-2667	Oct 27	21:06:35	64044	6995	-57714	-26	P	-a	-0.4978	1.9679	0.9216	333.3	194.1	-	5N	51W
-2666	Apr 23	22:44:11	64030	6992	-57708	-21	T-	pp	-0.0472	2.7817	1.7613	352.2	226.7	103.6	4S	74W
-2666	Oct 17	08:01:57	64016	6990	-57702	-16	T+	p-	0.2081	2.4719	1.4804	325.1	209.5	88.9	1N	146E
-2665	Apr 13	02:47:37	64002	6987	-57696	-11	P	t-	-0.8423	1.3448	0.2808	314.6	125.3	-	0S	134W
-2665	Oct 06	23:18:07	63989	6984	-57690	-6	P	a-	0.8647	1.2561	0.2863	265.2	111.9	-	3S	83W
-2664	Mar 02	13:00:24	63977	6982	-57685	-39	N	-t	1.2442	0.6014	-0.4508	222.2	-	-	16N	77E
-2664	Aug 27	02:29:57	63963	6979	-57679	-34	N	-a	-1.1641	0.7289	-0.2848	227.5	-	-	19S	129W
-2663	Feb 19	20:40:39	63949	6976	-57673	-29	T	-a	0.4490	2.0343	1.0338	324.7	197.5	28.3	19N	38W

-2663	Aug 16	09:22:27	63936	6974	-57667	-24	P	-t	-0.4786	2.0128	0.9472	348.6	202.5	-	21S	127E
-2662	Feb 09	10:43:10	63922	6971	-57661	-19	T	p-	-0.2886	2.3088	1.3477	315.5	203.7	79.1	21N	110E
-2662	Aug 05	10:06:17	63908	6968	-57655	-14	T+	pp	0.2444	2.4531	1.3667	372.5	228.5	88.4	22S	115E
-2661	Jan 30	03:11:10	63894	6966	-57649	-9	P	a-	-0.9841	1.0331	0.0713	247.2	57.8	-	22N	138W
-2661	Jul 25	11:08:32	63880	6963	-57643	-4	P	t-	0.9618	1.1219	0.0651	288.4	61.1	-	23S	98E
-2661	Dec 21	04:19:47	63869	6961	-57638	-37	N	-a	1.0398	0.9718	-0.0713	263.5	-	-	23N	159W
-2660	Jun 14	09:33:59	63855	6958	-57632	-32	P	-a	-0.9785	1.0458	0.0790	254.0	62.1	-	21S	119E
-2660	Dec 09	07:58:04	63841	6955	-57626	-27	T	-t	0.3714	2.2244	1.1295	364.2	216.3	56.7	20N	146E
-2659	Jun 04	02:00:24	63827	6952	-57620	-22	T-	-p	-0.2224	2.4199	1.4793	313.8	206.6	88.3	18S	127W
-2659	Nov 28	07:01:23	63813	6950	-57614	-17	T	p-	-0.3074	2.3456	1.2432	370.3	222.8	74.9	17N	159E
-2658	May 24	18:50:49	63800	6947	-57608	-12	P	a-	0.5248	1.8739	0.9159	305.5	184.7	-	14S	19W
-2658	Nov 17	09:06:28	63786	6944	-57602	-7	P	a-	-0.9706	1.1075	0.0471	281.7	51.1	-	12N	128E
-2657	Apr 14	20:09:11	63774	6942	-57597	-40	N	-t	-1.3638	0.3739	-0.6624	177.2	-	-	2S	36W
-2657	May 14	07:30:39	63772	6942	-57596	-2	N	t-	1.3375	0.4077	-0.6000	178.4	-	-	10S	152E
-2657	Oct 08	06:46:18	63760	6939	-57591	-35	N	-a	1.1463	0.7446	-0.2351	218.2	-	-	2S	164E
-2656	Apr 02	22:32:19	63746	6937	-57585	-30	P	-t	-0.6352	1.7280	0.6577	343.0	181.6	-	3N	70W
-2656	Sep 26	22:29:57	63733	6934	-57579	-25	P	-a	0.4791	1.9643	0.9931	304.9	186.4	-	7S	72W
-2655	Mar 22	23:24:50	63719	6931	-57573	-20	T+	pp	0.1265	2.6543	1.5978	366.2	231.0	101.4	8N	82W
-2655	Sep 16	12:37:50	63705	6929	-57567	-15	T-	p-	-0.2070	2.4814	1.4751	333.3	213.4	90.0	11S	77E
-2654	Mar 12	05:43:54	63691	6926	-57561	-10	P	a-	0.8721	1.2616	0.2540	285.3	112.6	-	13N	176W
-2654	Sep 05	20:55:09	63677	6923	-57555	-5	P	t-	-0.9562	1.1341	0.0736	287.1	64.2	-	16S	47W
-2653	Jan 31	10:24:51	63666	6921	-57550	-38	N	-a	-1.0313	0.9446	-0.0137	237.7	-	-	21N	113E
-2653	Mar 01	18:53:34	63664	6920	-57549	0	Nb	a-	1.5443	0.0053	-0.9569	19.8	-	-	17N	13W
-2653	Jul 27	05:12:22	63652	6918	-57544	-33	N	-t	1.2605	0.5859	-0.4948	226.4	-	-	22S	173W
-2652	Jan 21	02:37:40	63638	6916	-57538	-28	T	-p	-0.3482	2.2051	1.2328	315.6	200.3	67.5	23N	131W
-2652	Jul 15	07:46:15	63624	6913	-57532	-23	P	-t	0.4927	1.9738	0.9344	339.3	198.8	-	24S	147E
-2651	Jan 09	15:16:53	63611	6910	-57526	-18	T	p-	0.3704	2.1904	1.1664	335.3	206.4	60.6	24N	38E
-2651	Jul 04	17:34:47	63597	6907	-57520	-13	T	p-	-0.2798	2.3352	1.3538	327.1	209.6	81.6	24S	1W
-2651	Dec 29	20:49:45	63583	6905	-57514	-8	N	t-	1.1217	0.8408	-0.2404	260.6	-	-	24N	47W
-2650	May 26	02:26:41	63571	6903	-57509	-41	Ne	-a	1.4939	0.0869	-0.8535	78.1	-	-	14S	134W
-2650	Jun 24	09:09:58	63569	6902	-57508	-3	P	a-	-0.9950	1.0049	0.0593	243.1	52.7	-	23S	124E
-2650	Nov 19	01:35:15	63558	6900	-57503	-36	N	-t	-1.2235	0.6610	-0.4339	237.3	-	-	13N	120W
-2649	May 15	18:35:55	63544	6897	-57497	-31	P	-a	0.7969	1.3804	0.4107	283.0	135.9	-	11S	16W
-2649	Nov 08	05:35:23	63530	6894	-57491	-26	P	-p	-0.4952	1.9712	0.9278	332.2	194.0	-	9N	180E
-2648	May 04	05:25:41	63516	6892	-57485	-21	T+	pp	0.0360	2.8038	1.7803	353.9	227.6	104.1	8S	178W
-2648	Oct 27	16:49:17	63502	6889	-57479	-16	T+	p-	0.2082	2.4711	1.4809	324.3	209.1	88.7	6N	11E
-2647	Apr 23	09:05:32	63489	6886	-57473	-11	P	t-	-0.7556	1.5040	0.4396	327.2	153.3	-	5S	128E
-2647	Oct 17	08:07:59	63475	6884	-57467	-6	P	a-	0.8625	1.2610	0.2896	265.7	112.5	-	2N	142E
-2646	Mar 13	19:54:11	63463	6881	-57462	-39	N	-t	1.3053	0.4863	-0.5600	201.1	-	-	13N	29W
-2646	Apr 12	09:46:02	63461	6881	-57461	-1	N	t-	-1.5005	0.1353	-0.9252	112.1	-	-	1S	119E

-2646	Sep 07	10:34:06	63450	6879	-57456	-34	N	-a	-1.1906	0.6836	-0.3365	222.3	-	-	15S	107E
-2646	Oct 06	22:53:46	63447	6878	-57455	4	N	a-	1.5552	0.0038	-0.9947	17.1	-	-	2S	80W
-2645	Mar 03	04:11:00	63436	6876	-57450	-29	P	-a	0.5007	1.9364	0.9422	319.4	191.2	-	16N	153W
-2645	Aug 27	16:51:49	63422	6873	-57444	-24	P	-t	-0.5146	1.9499	0.8781	347.4	197.9	-	18S	13E
-2644	Feb 20	18:39:29	63408	6871	-57438	-19	T-	p-	-0.2438	2.3887	1.4321	316.2	206.1	85.5	18N	11W
-2644	Aug 15	17:12:45	63394	6868	-57432	-14	T+	pp	0.1977	2.5406	1.4506	374.5	231.0	94.6	20S	7E
-2643	Feb 09	11:17:19	63381	6865	-57426	-9	P	a-	-0.9492	1.0961	0.1362	253.2	79.3	-	20N	99E
-2643	Aug 04	18:21:33	63367	6863	-57420	-4	P	t-	0.9091	1.2189	0.1615	296.7	94.6	-	22S	12W
-2643	Dec 31	12:29:29	63355	6860	-57415	-37	N	-a	1.0561	0.9423	-0.1014	261.1	-	-	25N	78E
-2642	Jun 25	16:57:50	63342	6858	-57409	-32	N	-a	-1.0409	0.9310	-0.0350	241.9	-	-	23S	7E
-2642	Dec 20	15:52:30	63328	6855	-57403	-27	T	-t	0.3821	2.2045	1.1102	364.0	215.6	52.7	23N	26E
-2641	Jun 15	09:28:30	63314	6852	-57397	-22	T	-p	-0.2923	2.2924	1.3505	311.4	202.8	79.2	21S	119E
-2641	Dec 09	14:58:37	63300	6850	-57391	-17	T	p-	-0.3012	2.3554	1.2560	369.8	223.1	76.5	20N	38E
-2640	Jun 04	02:06:52	63286	6847	-57385	-12	T	a-	0.4525	2.0083	1.0467	311.8	193.3	32.4	18S	131W
-2640	Nov 27	17:27:17	63273	6844	-57379	-7	P	a-	-0.9678	1.1106	0.0543	280.9	54.6	-	16N	1E
-2639	Apr 25	02:44:35	63261	6842	-57374	-40	N	-t	-1.4477	0.2211	-0.8174	138.7	-	-	6S	138W
-2639	May 24	14:19:16	63259	6841	-57373	-2	N	t-	1.2644	0.5442	-0.4679	204.4	-	-	14S	46E
-2639	Oct 18	15:33:33	63248	6839	-57368	-35	N	-a	1.1456	0.7457	-0.2338	218.0	-	-	3N	29E
-2638	Apr 14	04:53:07	63234	6837	-57362	-30	P	-t	-0.7186	1.5745	0.5053	333.6	163.2	-	1S	169W
-2638	Oct 08	07:13:33	63220	6834	-57356	-25	P	-a	0.4852	1.9547	0.9806	305.1	185.8	-	2S	155E
-2637	Apr 03	06:01:18	63206	6831	-57350	-20	T+	pp	0.0497	2.7928	1.7411	365.7	232.2	104.9	4N	176E
-2637	Sep 27	21:02:20	63192	6829	-57344	-15	T-	p-	-0.1975	2.5015	1.4897	335.1	214.2	91.0	7S	52W
-2636	Mar 22	12:53:39	63179	6826	-57338	-10	P	a-	0.8040	1.3834	0.3820	293.1	135.1	-	9N	74E
-2636	Sep 16	04:47:45	63165	6823	-57332	-5	P	t-	-0.9399	1.1669	0.1004	291.4	74.9	-	12S	168W
-2635	Feb 10	18:29:51	63153	6821	-57327	-38	N	-a	-1.0687	0.8741	-0.0805	230.1	-	-	19N	10W
-2635	Mar 12	02:31:42	63151	6820	-57326	0	N	a-	1.4866	0.1088	-0.8487	88.4	-	-	13N	130W
-2635	Aug 06	12:13:32	63140	6818	-57321	-33	N	-t	1.3098	0.4967	-0.5866	210.1	-	-	21S	80E
-2634	Jan 31	10:47:53	63126	6816	-57315	-28	T	-a	-0.3808	2.1448	1.1735	314.5	198.2	59.6	22N	105E
-2634	Jul 26	14:59:47	63112	6813	-57309	-23	P	-t	0.5463	1.8755	0.8362	334.0	190.8	-	23S	37E
-2633	Jan 20	23:18:09	63098	6810	-57303	-18	T	p-	0.3468	2.2338	1.2096	337.6	209.0	67.2	24N	83W
-2633	Jul 16	01:05:35	63085	6808	-57297	-13	T-	p-	-0.2203	2.4441	1.4631	328.1	212.2	89.3	24S	115W
-2632	Jan 10	04:34:41	63071	6805	-57291	-8	N	t-	1.1032	0.8743	-0.2060	265.3	-	-	25N	164W
-2632	Jul 04	16:46:44	63057	6802	-57285	-3	P	a-	-0.9324	1.1205	0.1734	253.4	88.7	-	24S	9E
-2632	Nov 29	09:40:41	63046	6800	-57280	-36	N	-t	-1.2244	0.6578	-0.4339	236.2	-	-	16N	117E
-2631	May 26	01:43:51	63032	6797	-57274	-31	P	-a	0.8763	1.2368	0.2633	273.4	111.5	-	15S	126W
-2631	Nov 18	14:05:47	63018	6795	-57268	-26	P	-p	-0.4924	1.9747	0.9348	331.0	193.9	-	13N	50E
-2630	May 15	12:05:57	63004	6792	-57262	-21	T+	pp	0.1195	2.6523	1.6253	354.5	226.8	101.0	12S	79E
-2630	Nov 08	01:37:52	62991	6789	-57256	-16	T+	p-	0.2086	2.4694	1.4810	323.4	208.7	88.6	10N	124W
-2629	May 04	15:22:53	62977	6787	-57250	-11	P	t-	-0.6684	1.6644	0.5994	338.1	174.7	-	9S	30E
-2629	Oct 28	17:00:13	62963	6784	-57244	-6	P	a-	0.8622	1.2622	0.2894	265.9	112.5	-	6N	6E

-2628	Mar 24	02:43:01	62952	6782	-57239	-39	N	-t	1.3710	0.3628	-0.6777	175.0	-	-	9N	134W
-2628	Apr 22	16:08:48	62949	6781	-57238	-1	N	t-	-1.4145	0.2914	-0.7657	161.8	-	-	5S	20E
-2628	Sep 17	18:45:03	62938	6779	-57233	-34	N	-a	-1.2109	0.6493	-0.3768	218.4	-	-	12S	18W
-2628	Oct 17	07:32:42	62936	6779	-57232	4	N	a-	1.5564	0.0035	-0.9991	16.6	-	-	3N	148E
-2627	Mar 13	11:34:52	62924	6776	-57227	-29	P	-a	0.5586	1.8269	0.8389	313.2	183.2	-	12N	93E
-2627	Sep 07	00:29:40	62911	6774	-57221	-24	P	-t	-0.5430	1.9008	0.8231	346.6	194.0	-	15S	104W
-2626	Mar 03	02:27:40	62897	6771	-57215	-19	T-	p-	-0.1916	2.4824	1.5299	317.0	208.3	91.1	15N	130W
-2626	Aug 27	00:30:41	62883	6768	-57209	-14	T+	pp	0.1602	2.6111	1.5178	375.8	232.4	98.4	18S	105W
-2625	Feb 20	19:14:24	62869	6766	-57203	-9	P	a-	-0.9071	1.1727	0.2142	260.0	98.6	-	17N	22W
-2625	Aug 16	01:45:41	62856	6763	-57197	-4	P	t-	0.8642	1.3016	0.2436	303.0	114.5	-	20S	124W
-2624	Jan 11	20:29:53	62844	6761	-57192	-37	N	-a	1.0792	0.9000	-0.1440	257.1	-	-	25N	43W
-2624	Jul 06	00:28:27	62830	6758	-57186	-32	N	-a	-1.0987	0.8248	-0.1411	229.6	-	-	25S	107W
-2624	Aug 04	09:59:28	62828	6758	-57185	6	N	a-	1.5280	0.0536	-0.9449	65.0	-	-	21S	112E
-2624	Dec 30	23:37:52	62817	6755	-57180	-27	T	-t	0.3997	2.1714	1.0785	363.3	214.2	45.0	24N	91W
-2623	Jun 25	17:01:11	62803	6753	-57174	-22	T	-p	-0.3583	2.1722	1.2283	308.7	198.2	66.6	23S	4E
-2623	Dec 19	22:51:04	62789	6750	-57168	-17	T	p-	-0.2904	2.3734	1.2778	369.4	223.7	79.0	22N	81W
-2622	Jun 15	09:25:11	62776	6747	-57162	-12	T	p-	0.3829	2.1382	1.1722	317.2	200.3	60.1	20S	117E
-2622	Dec 09	01:46:20	62762	6745	-57156	-7	P	a-	-0.9625	1.1179	0.0664	280.4	60.1	-	19N	126W
-2621	May 06	09:16:29	62750	6742	-57151	-40	Ne	-t	-1.5330	0.0659	-0.9752	77.1	-	-	10S	121E
-2621	Jun 04	21:08:01	62748	6742	-57150	-2	N	t-	1.1918	0.6797	-0.3371	226.5	-	-	17S	58W
-2621	Oct 30	00:25:06	62737	6740	-57145	-35	N	-a	1.1421	0.7519	-0.2271	218.4	-	-	7N	106W
-2620	Apr 24	11:08:36	62723	6737	-57139	-30	P	-t	-0.8059	1.4138	0.3455	322.1	138.4	-	5S	94E
-2620	Oct 18	16:02:22	62709	6734	-57133	-25	P	-a	0.4867	1.9532	0.9765	305.6	185.7	-	2N	20E
-2619	Apr 13	12:33:56	62696	6732	-57127	-20	T-	pp	-0.0312	2.8245	1.7773	364.3	231.8	105.3	0S	74E
-2619	Oct 08	05:31:45	62682	6729	-57121	-15	T-	p-	-0.1929	2.5125	1.4957	336.7	214.9	91.4	3S	178E
-2618	Apr 02	20:00:37	62668	6726	-57115	-10	P	a-	0.7324	1.5120	0.5161	300.4	153.3	-	5N	36W
-2618	Sep 27	12:46:21	62654	6724	-57109	-5	P	t-	-0.9291	1.1896	0.1176	294.7	81.1	-	8S	70E
-2617	Feb 22	02:28:20	62643	6722	-57104	-38	N	-a	-1.1116	0.7937	-0.1574	220.8	-	-	17N	131W
-2617	Mar 23	10:05:41	62641	6721	-57103	0	N	a-	1.4252	0.2193	-0.7339	124.0	-	-	9N	114E
-2617	Aug 17	19:23:45	62629	6719	-57098	-33	N	-t	1.3520	0.4205	-0.6652	194.6	-	-	19S	29W
-2616	Feb 11	18:49:50	62616	6716	-57092	-28	T	-a	-0.4197	2.0729	1.1026	313.0	195.2	47.0	20N	17W
-2616	Aug 05	22:23:36	62602	6714	-57086	-23	P	-t	0.5921	1.7915	0.7521	328.9	183.0	-	22S	75W
-2615	Jan 31	07:07:15	62588	6711	-57080	-18	T	p-	0.3143	2.2935	1.2693	340.3	212.2	74.9	23N	158E
-2615	Jul 26	08:46:37	62575	6708	-57074	-13	T-	p-	-0.1687	2.5389	1.5578	328.6	213.7	94.0	24S	128E
-2614	Jan 20	12:07:49	62561	6706	-57068	-8	N	t-	1.0762	0.9233	-0.1558	271.8	-	-	25N	82E
-2614	Jul 16	00:31:33	62547	6703	-57062	-3	P	a-	-0.8764	1.2243	0.2751	261.8	110.0	-	25S	109W
-2614	Dec 10	17:41:40	62536	6701	-57057	-36	N	-t	-1.2291	0.6472	-0.4407	233.8	-	-	19N	5W
-2613	Jun 06	08:53:09	62522	6698	-57051	-31	P	-a	0.9533	1.0977	0.1199	262.7	77.0	-	18S	125E
-2613	Nov 29	22:34:59	62508	6695	-57045	-26	P	-p	-0.4913	1.9745	0.9389	329.6	193.6	-	17N	79W
-2612	May 25	18:43:03	62495	6693	-57039	-21	T+	pp	0.2045	2.4985	1.4673	354.2	224.2	93.8	15S	23W

-2612	Nov 18	10:27:46	62481	6690	-57033	-16	T+	p-	0.2098	2.4659	1.4798	322.6	208.3	88.4	14N	102E
-2611	May 14	21:37:07	62467	6687	-57027	-11	P	t-	-0.5788	1.8293	0.7632	347.7	191.9	-	12S	66W
-2611	Nov 08	01:54:25	62454	6685	-57021	-6	P	a-	0.8640	1.2593	0.2858	265.9	111.9	-	11N	130W
-2610	Apr 04	09:27:02	62442	6683	-57016	-39	N	t-	1.4409	0.2319	-0.8032	141.0	-	-	5N	121E
-2610	May 03	22:30:32	62440	6682	-57015	-1	N	t-	-1.3266	0.4514	-0.6030	197.8	-	-	9S	79W
-2610	Sep 29	03:02:58	62428	6680	-57010	-34	N	a-	-1.2246	0.6272	-0.4047	216.1	-	-	7S	145W
-2609	Mar 24	18:53:59	62415	6677	-57004	-29	P	a-	0.6214	1.7089	0.7266	306.0	173.2	-	8N	20W
-2609	Sep 18	08:14:31	62401	6675	-56998	-24	P	t-	-0.5650	1.8632	0.7801	346.1	190.6	-	11S	138E
-2608	Mar 13	10:10:00	62387	6672	-56992	-19	T-	p-	-0.1342	2.5858	1.6371	317.5	210.1	95.5	11N	112E
-2608	Sep 06	07:57:56	62374	6669	-56986	-14	T+	pp	0.1298	2.6683	1.5720	376.7	233.3	100.7	14S	141E
-2607	Mar 03	03:02:43	62360	6667	-56980	-9	P	a-	-0.8580	1.2620	0.3048	267.4	116.3	-	14N	141W
-2607	Aug 26	09:20:53	62346	6664	-56974	-4	P	h-	0.8272	1.3696	0.3112	307.6	127.8	-	17S	120E
-2606	Jan 22	04:21:03	62335	6662	-56969	-37	N	-h	1.1092	0.8449	-0.1991	251.4	-	-	25N	162W
-2606	Jul 17	08:07:24	62321	6659	-56963	-32	N	a-	-1.1503	0.7303	-0.2359	217.6	-	-	25S	137E
-2606	Aug 15	17:51:18	62319	6659	-56962	6	N	a-	1.4856	0.1313	-0.8672	100.7	-	-	19S	8W
-2605	Jan 11	07:15:18	62308	6656	-56957	-27	T	t-	0.4236	2.1268	1.0357	362.1	211.9	30.8	24N	153E
-2605	Jul 07	00:40:10	62294	6654	-56951	-22	T	a-	-0.4192	2.0619	1.1154	305.7	193.0	49.0	24S	113W
-2605	Dec 31	06:36:59	62280	6651	-56945	-17	T	p-	-0.2738	2.4016	1.3103	369.0	224.7	82.4	23N	161E
-2604	Jun 25	16:46:39	62267	6649	-56939	-12	T	p-	0.3166	2.2623	1.2915	321.8	205.8	75.2	22S	5E
-2604	Dec 19	10:00:47	62253	6646	-56933	-7	P	a-	-0.9525	1.1335	0.0874	280.7	68.5	-	21N	109E
-2603	Jun 15	03:59:18	62239	6643	-56927	-2	N	t-	1.1219	0.8107	-0.2114	245.3	-	-	20S	163W
-2603	Nov 09	09:17:11	62228	6641	-56922	-35	N	a-	1.1387	0.7575	-0.2203	218.7	-	-	12N	118E
-2602	May 05	17:23:03	62214	6638	-56916	-30	P	t-	-0.8937	1.2525	0.1846	308.7	103.6	-	9S	3W
-2602	Oct 30	00:53:47	62201	6636	-56910	-25	P	a-	0.4863	1.9550	0.9764	306.2	185.9	-	7N	116W
-2601	Apr 24	19:04:42	62187	6633	-56904	-20	T-	pp	-0.1145	2.6697	1.6265	361.9	229.9	102.0	5S	27W
-2601	Oct 19	14:05:17	62173	6630	-56898	-15	T-	p-	-0.1923	2.5158	1.4945	338.2	215.4	91.5	2N	47E
-2600	Apr 13	03:03:40	62160	6628	-56892	-10	P	a-	0.6562	1.6492	0.6585	307.1	168.7	-	0N	145W
-2600	Oct 07	20:51:25	62146	6625	-56886	-5	P	t-	-0.9243	1.2009	0.1240	296.9	83.5	-	3S	54W

26TH CENTURY BCE

In the 26th century BCE the total number of lunar eclipses was 240 lunar eclipses:
**84 penumbral lunar eclipses, 94 partial lunar eclipses, 62 total lunar eclipses
(48 central total lunar eclipses, 14 non-central total lunar eclipses).**

	CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
	DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG
	GREATEST				S					m	m	m	°	°		
ECLIPSE																
-2599	Mar 04	10:17:06	62135	6623	-56881	-38	N	-a	-1.1626	0.6986	-0.2494	209.0	-	-	13N	109E
-2599	Apr 02	17:32:52	62132	6622	-56880	0	N	a-	1.3577	0.3413	-0.6082	152.5	-	-	5N	1W
-2599	Aug 28	02:45:57	62121	6620	-56875	-33	N	-t	1.3847	0.3617	-0.7262	181.4	-	-	16S	142W
-2598	Feb 22	02:42:16	62107	6618	-56869	-28	T	-a	-0.4659	1.9877	1.0182	310.7	191.0	20.3	17N	137W
-2598	Aug 17	05:58:15	62094	6615	-56863	-23	P	-t	0.6299	1.7222	0.6827	324.2	175.8	-	20S	170E
-2597	Feb 11	14:47:22	62080	6612	-56857	-18	T	p-	0.2752	2.3652	1.3410	343.1	215.6	82.4	21N	42E
-2597	Aug 06	16:36:38	62067	6610	-56851	-13	T-	p-	-0.1240	2.6212	1.6397	328.5	214.4	96.8	22S	10E
-2596	Jan 31	19:31:40	62053	6607	-56845	-8	N	t-	1.0418	0.9856	-0.0919	279.4	-	-	23N	30W
-2596	Jul 26	08:22:49	62039	6604	-56839	-3	P	a-	-0.8255	1.3188	0.3672	268.8	125.4	-	24S	132E
-2596	Dec 21	01:39:25	62028	6602	-56834	-36	N	-t	-1.2369	0.6304	-0.4528	230.4	-	-	21N	126W
-2595	Jun 16	16:04:36	62014	6600	-56828	-31	N	-a	1.0275	0.9639	-0.0189	250.9	-	-	20S	15E
-2595	Jul 16	00:46:34	62012	6599	-56827	7	Nb	a-	-1.5482	0.0003	-0.9659	5.0	-	-	26S	115W
-2595	Dec 10	07:01:23	62001	6597	-56822	-26	P	-a	-0.4934	1.9683	0.9374	328.0	193.0	-	20N	152E
-2594	Jun 06	01:22:38	61987	6594	-56816	-21	T	-t	0.2864	2.3505	1.3147	352.9	220.1	81.8	18S	125W
-2594	Nov 29	19:16:16	61973	6592	-56810	-16	T+	p-	0.2096	2.4651	1.4817	321.7	208.1	88.4	18N	32W
-2593	May 26	03:52:40	61960	6589	-56804	-11	P	t-	-0.4902	1.9926	0.9251	355.8	205.5	-	16S	163W
-2593	Nov 19	10:48:02	61946	6586	-56798	-6	P	a-	0.8654	1.2569	0.2830	265.9	111.5	-	15N	94E
-2592	Apr 14	16:09:09	61935	6584	-56793	-39	Ne	-t	1.5128	0.0975	-0.9326	92.1	-	-	0N	18E
-2592	May 14	04:53:43	61932	6584	-56792	-1	N	t-	-1.2386	0.6116	-0.4403	226.1	-	-	13S	178W
-2592	Oct 09	11:25:28	61921	6582	-56787	-34	N	-a	-1.2343	0.6120	-0.4251	214.7	-	-	3S	87E
-2591	Apr 04	02:08:28	61907	6579	-56781	-29	P	-a	0.6891	1.5820	0.6049	297.7	160.7	-	4N	131W
-2591	Sep 28	16:06:57	61894	6576	-56775	-24	P	-t	-0.5804	1.8373	0.7494	346.0	188.2	-	7S	17E
-2590	Mar 24	17:46:16	61880	6574	-56769	-19	T-	pp	-0.0710	2.7002	1.7547	317.8	211.4	98.4	7N	5W
-2590	Sep 17	15:34:20	61867	6571	-56763	-14	T+	pp	0.1065	2.7123	1.6136	377.1	233.8	102.0	11S	25E
-2589	Mar 14	10:43:07	61853	6568	-56757	-9	P	a-	-0.8027	1.3632	0.4067	275.2	132.6	-	10N	101E
-2589	Sep 06	17:07:33	61839	6566	-56751	-4	P	h-	0.7985	1.4226	0.3638	310.7	136.7	-	14S	2E
-2588	Feb 02	12:00:12	61828	6564	-56746	-37	N	-h	1.1481	0.7735	-0.2702	243.0	-	-	23N	82E
-2588	Jul 27	15:54:50	61814	6561	-56740	-32	N	-a	-1.1957	0.6473	-0.3196	206.1	-	-	25S	19E
-2588	Aug 26	01:54:04	61812	6560	-56739	6	N	a-	1.4512	0.1947	-0.8041	121.6	-	-	17S	130W
-2587	Jan 21	14:41:47	61801	6558	-56734	-27	P	-t	0.4560	2.0661	0.9772	360.0	208.4	-	24N	41E
-2587	Jul 17	08:25:44	61787	6556	-56728	-22	T	-a	-0.4745	1.9620	1.0124	302.7	187.5	16.6	24S	130E
-2586	Jan 10	14:15:10	61774	6553	-56722	-17	T-	p-	-0.2502	2.4424	1.3561	368.7	226.0	86.7	24N	46E
-2586	Jul 07	00:13:09	61760	6550	-56716	-12	T+	p-	0.2552	2.3778	1.4016	325.7	210.0	85.0	23S	108W

-2586	Dec 30	18:11:24	61746	6548	-56710	-7	P	a-	-0.9384	1.1565	0.1163	281.5	78.5	-	23N	14W
-2585	Jun 26	10:51:48	61733	6545	-56704	-2	N	t-	1.0535	0.9391	-0.0888	261.8	-	-	22S	92E
-2585	Nov 20	18:10:34	61721	6543	-56699	-35	N	a-	1.1349	0.7637	-0.2125	219.2	-	-	16N	17W
-2584	May 15	23:36:05	61708	6540	-56693	-30	P	t-	-0.9825	1.0895	0.0217	293.0	36.3	-	13S	99W
-2584	Nov 09	09:46:38	61694	6538	-56687	-25	P	a-	0.4842	1.9595	0.9793	306.9	186.3	-	11N	109E
-2583	May 05	01:35:10	61681	6535	-56681	-20	T-	pp	-0.1989	2.5129	1.4733	358.5	226.2	94.8	9S	128W
-2583	Oct 29	22:41:05	61667	6532	-56675	-15	T-	p-	-0.1943	2.5141	1.4889	339.5	215.8	91.4	6N	84W
-2582	Apr 24	10:06:54	61653	6530	-56669	-10	P	a-	0.5792	1.7883	0.8022	312.7	181.2	-	4S	105E
-2582	Oct 19	04:58:48	61640	6527	-56663	-5	P	t-	-0.9219	1.2073	0.1262	298.5	84.4	-	1N	178W
-2581	Mar 15	18:00:57	61628	6525	-56658	-38	N	a-	-1.2177	0.5961	-0.3492	194.9	-	-	10N	10W
-2581	Apr 14	00:58:32	61626	6525	-56657	0	N	a-	1.2884	0.4669	-0.4795	175.9	-	-	1N	116W
-2581	Sep 08	10:17:28	61615	6522	-56652	-33	N	t-	1.4100	0.3161	-0.7737	170.1	-	-	13S	103E
-2580	Mar 04	10:25:20	61601	6520	-56646	-28	P	a-	-0.5194	1.8894	0.9203	307.7	185.3	-	14N	105E
-2580	Aug 27	13:43:47	61588	6517	-56640	-23	P	-h	0.6596	1.6677	0.6281	320.1	169.6	-	17S	52E
-2579	Feb 21	22:15:33	61574	6514	-56634	-18	T+	pp	0.2272	2.4535	1.4290	346.1	219.1	89.7	18N	72W
-2579	Aug 17	00:37:12	61561	6512	-56628	-13	T-	p-	-0.0872	2.6888	1.7069	328.2	214.6	98.3	20S	112W
-2578	Feb 11	02:43:15	61547	6509	-56622	-8	Nx	t-	0.9980	1.0651	-0.0108	288.5	-	-	21N	139W
-2578	Aug 06	16:23:48	61533	6507	-56616	-3	P	a-	-0.7828	1.3987	0.4443	274.4	136.3	-	23S	11E
-2577	Jan 01	09:30:34	61522	6504	-56611	-36	N	t-	-1.2505	0.6029	-0.4751	225.1	-	-	23N	115E
-2577	Jun 27	23:18:47	61508	6502	-56605	-31	N	a-	1.0984	0.8366	-0.1517	237.9	-	-	22S	96W
-2577	Jul 27	08:30:05	61506	6501	-56604	7	N	a-	-1.5030	0.0859	-0.8857	79.7	-	-	25S	128E
-2577	Dec 21	15:24:00	61495	6499	-56599	-26	P	a-	-0.4994	1.9546	0.9291	325.9	191.9	-	22N	26E
-2576	Jun 16	08:02:59	61481	6497	-56593	-21	T	t-	0.3664	2.2063	1.1655	350.6	214.3	62.6	21S	133E
-2576	Dec 10	04:01:32	61468	6494	-56587	-16	T+	p-	0.2062	2.4696	1.4896	321.0	208.0	88.8	20N	165W
-2575	Jun 05	10:09:40	61454	6491	-56581	-11	T	t-	-0.4027	2.1541	1.0847	362.3	216.0	47.1	19S	101E
-2575	Nov 29	19:40:24	61441	6489	-56575	-6	P	a-	0.8664	1.2550	0.2813	266.0	111.2	-	18N	41W
-2574	May 25	11:19:26	61427	6486	-56569	-1	N	t-	-1.1511	0.7711	-0.2789	249.2	-	-	16S	83E
-2574	Oct 20	19:51:39	61416	6484	-56564	-34	N	a-	-1.2402	0.6034	-0.4383	214.2	-	-	2N	42W
-2573	Apr 15	09:20:58	61402	6481	-56558	-29	P	a-	0.7593	1.4509	0.4784	288.4	145.4	-	0S	117E
-2573	Oct 10	00:05:11	61388	6479	-56552	-24	P	t-	-0.5906	1.8209	0.7287	346.2	186.6	-	2S	105W
-2572	Apr 04	01:16:44	61375	6476	-56546	-19	T-	pp	-0.0027	2.8242	1.8814	317.7	211.8	99.5	3N	121W
-2572	Sep 27	23:19:32	61361	6473	-56540	-14	T+	pp	0.0902	2.7433	1.6426	377.3	233.9	102.8	6S	94W
-2571	Mar 24	18:16:21	61348	6471	-56534	-9	P	a-	-0.7419	1.4746	0.5183	283.1	147.5	-	7N	15W
-2571	Sep 17	01:03:31	61334	6468	-56528	-4	P	a-	0.7765	1.4629	0.4042	312.7	142.8	-	10S	120W
-2570	Feb 12	19:29:17	61323	6466	-56523	-37	N	-h	1.1942	0.6889	-0.3547	232.0	-	-	21N	31W
-2570	Mar 14	07:39:52	61321	6466	-56522	1	Nb	h-	-1.5389	0.0375	-0.9686	55.4	-	-	10N	144E
-2570	Aug 07	23:51:44	61309	6463	-56517	-32	N	a-	-1.2341	0.5774	-0.3905	195.6	-	-	23S	102W
-2570	Sep 06	10:06:11	61307	6463	-56516	6	N	a-	1.4237	0.2452	-0.7536	135.4	-	-	13S	104E
-2569	Feb 01	21:59:34	61296	6461	-56511	-27	P	t-	0.4953	1.9928	0.9064	357.1	203.6	-	23N	70W
-2569	Jul 28	16:17:52	61282	6458	-56505	-22	P	a-	-0.5242	1.8725	0.9194	299.6	181.7	-	24S	11E

-2568	Jan 21	21:45:50	61269	6455	-56499	-17	T-	pp	-0.2197	2.4956	1.4147	368.5	227.5	91.3	23N	68W
-2568	Jul 17	07:45:17	61255	6453	-56493	-12	T+	p-	0.1989	2.4839	1.5020	329.0	213.2	91.6	24S	138E
-2567	Jan 10	02:13:35	61242	6450	-56487	-7	P	a-	-0.9163	1.1939	0.1600	283.5	91.2	-	23N	136W
-2567	Jul 06	17:50:25	61228	6448	-56481	-2	P	t-	0.9906	1.0576	0.0236	275.8	36.4	-	23S	15W
-2567	Dec 01	03:01:08	61217	6445	-56476	-35	N	-a	1.1340	0.7642	-0.2100	218.9	-	-	19N	152W
-2567	Dec 30	13:46:08	61215	6445	-56475	3	N	a-	-1.5469	0.0117	-0.9726	29.6	-	-	22N	50E
-2566	May 27	05:51:41	61203	6443	-56470	-30	N	-t	-1.0688	0.9313	-0.1369	275.4	-	-	17S	164E
-2566	Nov 20	18:37:56	61190	6440	-56464	-25	P	-a	0.4835	1.9614	0.9801	307.5	186.6	-	15N	26W
-2565	May 16	08:07:29	61176	6438	-56458	-20	T	pp	-0.2829	2.3573	1.3208	354.0	220.9	82.6	13S	131E
-2565	Nov 10	07:17:47	61163	6435	-56452	-15	T-	p-	-0.1978	2.5094	1.4809	340.8	216.2	91.1	11N	144E
-2564	May 04	17:07:52	61149	6432	-56446	-10	P	a-	0.4990	1.9333	0.9512	317.7	191.5	-	8S	3W
-2564	Oct 29	13:10:24	61135	6430	-56440	-5	P	t-	-0.9236	1.2061	0.1215	299.4	83.0	-	6N	56E
-2563	Mar 26	01:36:49	61124	6428	-56435	-38	N	-a	-1.2795	0.4816	-0.4615	177.1	-	-	5N	127W
-2563	Apr 24	08:20:12	61122	6427	-56434	0	N	a-	1.2153	0.6000	-0.3441	196.4	-	-	3S	130E
-2563	Sep 18	17:59:29	61111	6425	-56429	-33	N	-t	1.4275	0.2848	-0.8064	161.7	-	-	9S	15W
-2562	Mar 15	18:00:01	61097	6422	-56423	-28	P	-a	-0.5793	1.7795	0.8103	303.7	177.7	-	10N	11W
-2562	Sep 07	21:40:26	61084	6420	-56417	-23	P	-h	0.6813	1.6279	0.5883	316.8	164.7	-	13S	70W
-2561	Mar 05	05:34:45	61070	6417	-56411	-18	T+	pp	0.1726	2.5538	1.5290	348.9	222.3	95.9	14N	176E
-2561	Aug 28	08:46:27	61057	6415	-56405	-13	T-	p-	-0.0571	2.7444	1.7617	327.8	214.5	99.0	18S	124E
-2560	Feb 22	09:45:53	61043	6412	-56399	-8	P	t-	0.9473	1.1573	0.0831	298.1	70.0	-	18N	113E
-2560	Aug 17	00:32:22	61029	6409	-56393	-3	P	a-	-0.7465	1.4668	0.5094	278.9	144.4	-	21S	113W
-2559	Jan 11	17:14:53	61018	6407	-56388	-36	N	-t	-1.2699	0.5644	-0.5079	217.8	-	-	23N	2W
-2559	Jul 08	06:38:15	61005	6405	-56382	-31	N	-a	1.1639	0.7196	-0.2747	224.3	-	-	23S	153E
-2559	Aug 06	16:21:27	61003	6404	-56381	7	N	a-	-1.4648	0.1589	-0.8183	108.0	-	-	24S	9E
-2559	Dec 31	23:41:37	60991	6402	-56376	-26	P	-a	-0.5099	1.9323	0.9126	323.5	190.2	-	23N	100W
-2558	Jun 27	14:47:54	60978	6399	-56370	-21	T	-t	0.4416	2.0709	1.0248	347.7	207.0	25.4	22S	30E
-2558	Dec 21	12:42:11	60964	6397	-56364	-16	T+	p-	0.1987	2.4816	1.5051	320.3	208.1	89.6	23N	64E
-2557	Jun 16	16:31:32	60951	6394	-56358	-11	T	tp	-0.3193	2.3082	1.2366	367.4	223.7	74.8	21S	3E
-2557	Dec 11	04:28:33	60937	6392	-56352	-6	P	a-	0.8640	1.2591	0.2859	266.5	112.2	-	21N	174W
-2556	Jun 04	17:48:58	60924	6389	-56346	-1	N	t-	-1.0654	0.9276	-0.1209	268.2	-	-	19S	17W
-2556	Oct 31	04:19:49	60912	6387	-56341	-34	N	-a	-1.2439	0.5987	-0.4469	214.3	-	-	6N	172W
-2555	Apr 25	16:31:31	60899	6384	-56335	-29	P	-a	0.8318	1.3158	0.3473	277.9	125.9	-	4S	6E
-2555	Oct 20	08:06:53	60885	6382	-56329	-24	P	-t	-0.5972	1.8104	0.7149	346.6	185.6	-	2N	131E
-2554	Apr 15	08:43:44	60872	6379	-56323	-19	T+	pp	0.0688	2.7018	1.7610	317.0	211.2	98.5	1S	124E
-2554	Oct 09	07:12:17	60858	6376	-56317	-14	T+	pp	0.0799	2.7627	1.6608	377.3	233.9	103.1	2S	145E
-2553	Apr 05	01:42:26	60845	6374	-56311	-9	P	a-	-0.6756	1.5964	0.6398	290.9	161.1	-	2N	130W
-2553	Sep 28	09:09:00	60831	6371	-56305	-4	P	a-	0.7613	1.4905	0.4322	313.7	146.6	-	6S	116E
-2552	Feb 24	02:46:43	60820	6369	-56300	-37	N	-t	1.2487	0.5888	-0.4546	217.3	-	-	18N	143W
-2552	Mar 24	14:49:22	60818	6369	-56299	1	N	t-	-1.4796	0.1468	-0.8604	109.1	-	-	6N	34E
-2552	Aug 18	07:58:07	60807	6366	-56294	-32	N	-a	-1.2657	0.5201	-0.4490	186.4	-	-	21S	135E

-2552	Sep 16	18:28:15	60804	6366	-56293	6	N	a-	1.4033	0.2826	-0.7162	144.5	-	-	9S	23W
-2551	Feb 12	05:05:06	60793	6364	-56288	-27	P	t-	0.5444	1.9013	0.8177	353.0	196.7	-	20N	178W
-2551	Aug 08	00:18:36	60780	6361	-56282	-22	P	a-	-0.5668	1.7962	0.8394	296.9	176.1	-	23S	111W
-2550	Feb 01	05:08:22	60766	6359	-56276	-17	T-	pp	-0.1816	2.5627	1.4875	368.2	229.1	96.0	22N	180W
-2550	Jul 28	15:23:17	60753	6356	-56270	-12	T+	pp	0.1483	2.5799	1.5919	331.8	215.5	95.8	23S	22E
-2549	Jan 21	10:10:36	60739	6353	-56264	-7	P	a-	-0.8889	1.2409	0.2135	286.2	104.3	-	23N	104E
-2549	Jul 18	00:53:22	60725	6351	-56258	-2	P	t-	0.9316	1.1690	0.1286	287.8	84.0	-	23S	122W
-2549	Dec 12	11:49:25	60714	6349	-56253	-35	N	a-	1.1353	0.7606	-0.2111	218.2	-	-	22N	75E
-2548	Jan 10	22:11:56	60712	6348	-56252	3	N	a-	-1.5279	0.0441	-0.9352	57.1	-	-	22N	78W
-2548	Jun 06	12:08:46	60701	6346	-56247	-30	N	t-	-1.1536	0.7761	-0.2927	255.3	-	-	20S	68E
-2548	Dec 01	03:27:42	60687	6344	-56241	-25	P	a-	0.4837	1.9614	0.9795	308.0	186.9	-	18N	160W
-2547	May 26	14:43:20	60674	6341	-56235	-20	T	t-	-0.3648	2.2058	1.1718	348.7	213.9	63.5	16S	29E
-2547	Nov 20	15:52:16	60660	6338	-56229	-15	T-	p-	-0.2003	2.5062	1.4751	342.0	216.6	91.0	14N	13E
-2546	May 16	00:12:29	60647	6336	-56223	-10	T	a-	0.4208	2.0752	1.0964	321.5	199.6	46.6	12S	112W
-2546	Nov 09	21:21:43	60633	6333	-56217	-5	P	t-	-0.9254	1.2040	0.1168	300.0	81.6	-	10N	69W
-2545	Apr 06	09:08:42	60622	6331	-56212	-38	N	a-	-1.3445	0.3616	-0.5799	155.2	-	-	1N	117E
-2545	May 05	15:41:36	60620	6331	-56211	0	N	a-	1.1414	0.7345	-0.2078	214.0	-	-	8S	16E
-2545	Sep 30	01:49:12	60609	6328	-56206	-33	N	t-	1.4391	0.2640	-0.8281	155.8	-	-	5S	135W
-2544	Mar 26	01:27:13	60595	6326	-56200	-28	P	a-	-0.6448	1.6596	0.6900	298.7	167.8	-	6N	126W
-2544	Sep 18	05:46:48	60582	6323	-56194	-23	P	a-	0.6957	1.6013	0.5622	314.2	161.2	-	10S	166E
-2543	Mar 15	12:42:41	60568	6321	-56188	-18	T+	pp	0.1099	2.6693	1.6437	351.5	225.1	100.7	11N	66E
-2543	Sep 07	17:06:08	60555	6318	-56182	-13	T-	pp	-0.0353	2.7848	1.8016	327.2	214.2	99.2	14S	3W
-2542	Mar 04	16:37:41	60541	6315	-56176	-8	P	t-	0.8883	1.2646	0.1921	308.3	104.9	-	15N	8E
-2542	Aug 28	08:49:42	60528	6313	-56170	-3	P	a-	-0.7177	1.5212	0.5607	282.4	150.3	-	18S	121E
-2541	Jan 23	00:51:11	60517	6311	-56165	-36	N	t-	-1.2961	0.5132	-0.5529	207.8	-	-	22N	117W
-2541	Jul 19	14:03:18	60503	6308	-56159	-31	N	a-	1.2234	0.6135	-0.3871	210.3	-	-	23S	40E
-2541	Aug 18	00:20:37	60501	6308	-56158	7	N	a-	-1.4335	0.2192	-0.7639	126.6	-	-	22S	112W
-2540	Jan 12	07:51:47	60490	6306	-56153	-26	P	a-	-0.5277	1.8965	0.8831	320.5	187.6	-	23N	137E
-2540	Jul 07	21:36:34	60476	6303	-56147	-21	P	t-	0.5128	1.9432	0.8913	344.1	198.4	-	23S	74W
-2540	Dec 31	21:17:05	60463	6300	-56141	-16	T+	p-	0.1860	2.5028	1.5303	319.8	208.4	90.8	24N	66W
-2539	Jun 26	22:58:30	60449	6298	-56135	-11	T-	pp	-0.2398	2.4555	1.3813	371.2	229.2	89.9	23S	95W
-2539	Dec 21	13:11:35	60436	6295	-56129	-6	P	a-	0.8579	1.2699	0.2977	267.6	114.4	-	23N	54E
-2538	Jun 16	00:24:38	60422	6293	-56123	-1	P	t-	-0.9833	1.0776	0.0302	283.7	41.9	-	22S	118W
-2538	Nov 11	12:49:04	60411	6290	-56118	-34	N	a-	-1.2459	0.5968	-0.4522	214.8	-	-	10N	58E
-2537	May 06	23:41:23	60398	6288	-56112	-29	P	a-	0.9057	1.1785	0.2135	266.1	100.4	-	8S	104W
-2537	Oct 31	16:12:02	60384	6285	-56106	-24	P	t-	-0.6006	1.8054	0.7072	347.2	185.1	-	7N	8E
-2536	Apr 25	16:07:41	60371	6283	-56100	-19	T+	p-	0.1430	2.5651	1.6256	315.7	209.6	95.1	5S	10E
-2536	Oct 19	15:10:34	60357	6280	-56094	-14	T+	pp	0.0735	2.7747	1.6724	377.0	233.8	103.2	3N	23E
-2535	Apr 15	09:03:27	60344	6278	-56088	-9	P	a-	-0.6055	1.7255	0.7681	298.4	173.3	-	2S	116E
-2535	Oct 08	17:21:56	60330	6275	-56082	-4	P	a-	0.7513	1.5084	0.4511	313.9	148.9	-	1S	10W

-2534	Mar 06	09:55:18	60319	6273	-56077	-37	N	-t	1.3095	0.4772	-0.5663	198.3	-	-	15N	108E
-2534	Apr 04	21:52:58	60317	6272	-56076	1	N	t-	-1.4159	0.2644	-0.7444	145.4	-	-	2N	75W
-2534	Aug 29	16:12:39	60306	6270	-56071	-32	N	-a	-1.2914	0.4735	-0.4969	178.4	-	-	18S	10E
-2534	Sep 28	02:56:51	60304	6270	-56070	6	N	a-	1.3875	0.3114	-0.6871	150.8	-	-	5S	153W
-2533	Feb 23	12:02:17	60292	6268	-56065	-27	P	-t	0.6001	1.7978	0.7169	347.8	187.6	-	18N	76E
-2533	Aug 19	08:27:02	60279	6265	-56059	-22	P	-a	-0.6031	1.7316	0.7707	294.5	170.8	-	20S	125E
-2532	Feb 12	12:21:15	60265	6263	-56053	-17	T-	pp	-0.1349	2.6455	1.5761	367.8	230.6	100.2	20N	71E
-2532	Aug 07	23:08:50	60252	6260	-56047	-12	T+	pp	0.1046	2.6632	1.6689	334.2	217.2	98.4	22S	96W
-2531	Jan 31	17:58:20	60239	6257	-56041	-7	P	a-	-0.8528	1.3036	0.2830	289.8	118.5	-	21N	14W
-2531	Jul 28	08:04:27	60225	6255	-56035	-2	P	t-	0.8799	1.2671	0.2203	297.9	108.8	-	23S	129E
-2531	Dec 22	20:30:59	60214	6253	-56030	-35	N	-a	1.1426	0.7458	-0.2231	216.1	-	-	24N	57W
-2530	Jan 21	06:28:47	60212	6252	-56029	3	N	a-	-1.5012	0.0905	-0.8837	81.3	-	-	22N	157E
-2530	Jun 17	18:32:25	60200	6250	-56024	-30	N	-t	-1.2330	0.6309	-0.4391	233.4	-	-	22S	30W
-2530	Dec 12	12:13:06	60187	6247	-56018	-25	P	-a	0.4874	1.9546	0.9725	308.4	186.8	-	21N	67E
-2529	Jun 06	21:22:43	60174	6245	-56012	-20	T	-t	-0.4448	2.0579	1.0261	342.4	205.2	25.8	19S	73W
-2529	Dec 02	00:24:36	60160	6242	-56006	-15	T-	p-	-0.2015	2.5049	1.4717	343.2	217.2	91.0	18N	117W
-2528	May 26	07:18:12	60147	6240	-56000	-10	T	a-	0.3421	2.2182	1.2421	324.4	205.8	70.4	15S	138E
-2528	Nov 20	05:32:27	60133	6237	-55994	-5	P	t-	-0.9273	1.2015	0.1125	300.6	80.4	-	14N	166E
-2527	Apr 16	16:34:54	60122	6235	-55989	-38	N	-a	-1.4140	0.2335	-0.7071	126.3	-	-	3S	2E
-2527	May 15	23:02:12	60120	6235	-55988	0	N	a-	1.0664	0.8717	-0.0696	229.6	-	-	11S	97W
-2527	Oct 10	09:47:49	60109	6232	-55983	-33	N	-t	1.4442	0.2547	-0.8376	152.9	-	-	0S	103E
-2526	Apr 06	08:47:53	60095	6230	-55977	-28	P	-a	-0.7148	1.5316	0.5609	292.4	154.9	-	2N	120E
-2526	Sep 29	14:01:29	60082	6227	-55971	-23	P	-a	0.7042	1.5853	0.5469	312.2	158.9	-	5S	40E
-2525	Mar 26	19:43:00	60068	6225	-55965	-18	T+	pp	0.0417	2.7948	1.7683	353.5	227.0	103.6	7N	42W
-2525	Sep 19	01:34:00	60055	6222	-55959	-13	T-	pp	-0.0197	2.8136	1.8300	326.5	213.8	99.1	10S	132W
-2524	Mar 14	23:19:47	60042	6220	-55953	-8	P	t-	0.8217	1.3861	0.3151	318.8	132.2	-	11N	95W
-2524	Sep 07	17:14:55	60028	6217	-55947	-3	P	a-	-0.6956	1.5634	0.5997	285.1	154.5	-	15S	7W
-2523	Feb 02	08:19:51	60017	6215	-55942	-36	N	-t	-1.3290	0.4497	-0.6100	194.9	-	-	21N	130E
-2523	Mar 03	23:36:53	60015	6214	-55941	2	Nb	t-	1.5459	0.0572	-1.0134	73.6	-	-	16N	99W
-2523	Jul 29	21:34:49	60004	6212	-55936	-31	N	-a	1.2769	0.5186	-0.4885	196.1	-	-	22S	74W
-2523	Aug 28	08:26:58	60001	6212	-55935	7	N	a-	-1.4086	0.2678	-0.7211	139.9	-	-	19S	125E
-2522	Jan 22	15:55:15	59990	6210	-55930	-26	P	-a	-0.5518	1.8492	0.8420	317.0	184.0	-	23N	15E
-2522	Jul 19	04:32:23	59977	6207	-55924	-21	P	-t	0.5772	1.8281	0.7703	340.2	188.9	-	23S	179W
-2521	Jan 12	05:45:40	59963	6205	-55918	-16	T+	p-	0.1678	2.5342	1.5658	319.4	209.0	92.4	24N	166E
-2521	Jul 08	05:31:40	59950	6202	-55912	-11	T-	pp	-0.1652	2.5935	1.5167	373.8	232.8	98.8	24S	165E
-2520	Jan 01	21:48:04	59937	6199	-55906	-6	P	a-	0.8469	1.2895	0.3184	269.3	118.1	-	25N	76W
-2520	Jun 26	07:07:37	59923	6197	-55900	-1	P	t-	-0.9063	1.2186	0.1720	296.2	97.6	-	24S	140E
-2520	Nov 21	21:15:26	59912	6195	-55895	-34	N	-a	-1.2494	0.5916	-0.4600	214.8	-	-	14N	70W
-2519	May 17	06:52:52	59899	6192	-55889	-29	P	-a	0.9788	1.0430	0.0806	253.2	62.6	-	12S	145E
-2519	Nov 11	00:17:21	59885	6190	-55883	-24	P	-t	-0.6031	1.8018	0.7018	347.7	184.9	-	11N	116W

-2518	May 06	23:30:33	59872	6187	-55877	-19	T+	-p	0.2182	2.4267	1.4878	313.7	206.8	88.9	9S	104W
-2518	Oct 30	23:12:22	59858	6185	-55871	-14	T+	pp	0.0697	2.7815	1.6795	376.6	233.6	103.3	7N	100W
-2517	Apr 26	16:19:59	59845	6182	-55865	-9	P	a-	-0.5323	1.8606	0.9016	305.4	183.9	-	6S	4E
-2517	Oct 20	01:41:53	59832	6179	-55859	-4	P	a-	0.7461	1.5171	0.4613	313.4	149.9	-	3N	137W
-2516	Mar 16	16:51:36	59820	6177	-55854	-37	N	-t	1.3789	0.3499	-0.6938	172.4	-	-	11N	1E
-2516	Apr 15	04:47:12	59818	6177	-55853	1	N	t-	-1.3457	0.3944	-0.6165	176.2	-	-	2S	178E
-2516	Sep 09	00:37:01	59807	6175	-55848	-32	N	-a	-1.3099	0.4403	-0.5314	172.3	-	-	15S	118W
-2516	Oct 08	11:33:57	59805	6174	-55847	6	N	a-	1.3781	0.3284	-0.6695	154.2	-	-	1S	75E
-2515	Mar 05	18:48:30	59794	6172	-55842	-27	P	-t	0.6642	1.6787	0.6006	341.0	175.2	-	14N	28W
-2515	Aug 29	16:43:53	59780	6170	-55836	-22	P	-a	-0.6321	1.6805	0.7155	292.5	166.3	-	17S	1W
-2514	Feb 22	19:26:45	59767	6167	-55830	-17	T-	pp	-0.0814	2.7405	1.6771	367.1	231.6	103.4	17N	38W
-2514	Aug 19	07:01:57	59753	6164	-55824	-12	T+	pp	0.0682	2.7332	1.7325	336.3	218.3	99.9	20S	144E
-2513	Feb 12	01:40:17	59740	6162	-55818	-7	P	a-	-0.8111	1.3767	0.3629	293.9	132.1	-	19N	131W
-2513	Aug 08	15:21:01	59727	6159	-55812	-2	P	t-	0.8334	1.3557	0.3023	306.5	126.3	-	21S	19E
-2512	Jan 03	05:08:21	59715	6157	-55807	-35	N	-a	1.1536	0.7241	-0.2418	213.1	-	-	25N	173E
-2512	Feb 01	14:39:42	59713	6157	-55806	3	N	a-	-1.4695	0.1461	-0.8230	102.4	-	-	21N	33E
-2512	Jun 28	01:01:27	59702	6155	-55801	-30	N	-t	-1.3080	0.4939	-0.5774	209.1	-	-	24S	129W
-2512	Dec 22	20:52:51	59689	6152	-55795	-25	P	-a	0.4955	1.9397	0.9578	308.4	186.2	-	23N	64W
-2511	Jun 17	04:09:26	59675	6150	-55789	-20	P	-t	-0.5196	1.9198	0.8896	335.6	195.3	-	22S	177W
-2511	Dec 12	08:51:39	59662	6147	-55783	-15	T-	p-	-0.1990	2.5103	1.4756	344.5	217.9	91.5	21N	115E
-2510	Jun 06	14:29:24	59649	6144	-55777	-10	T+	p-	0.2672	2.3546	1.3806	326.3	210.2	83.8	19S	28E
-2510	Dec 01	13:39:08	59635	6142	-55771	-5	P	t-	-0.9264	1.2037	0.1136	301.5	80.9	-	17N	43E
-2509	Apr 27	23:59:29	59624	6140	-55766	-38	Ne	-a	-1.4847	0.1037	-0.8367	85.2	-	-	7S	112W
-2509	May 27	06:25:11	59622	6139	-55765	0	P	a-	0.9930	1.0063	0.0653	242.9	55.3	-	15S	150E
-2509	Oct 21	17:51:23	59611	6137	-55760	-33	N	-t	1.4456	0.2519	-0.8399	151.8	-	-	4N	21W
-2508	Apr 16	16:01:31	59597	6135	-55754	-28	P	-a	-0.7897	1.3951	0.4228	284.6	137.8	-	3S	9E
-2508	Oct 09	22:23:50	59584	6132	-55748	-23	P	-a	0.7071	1.5793	0.5421	310.8	157.8	-	1S	88W
-2507	Apr 06	02:34:23	59571	6130	-55742	-18	T-	pp	-0.0326	2.8123	1.7842	355.0	227.8	104.1	2N	148W
-2507	Sep 29	10:09:21	59557	6127	-55736	-13	T-	pp	-0.0099	2.8316	1.8477	325.9	213.3	99.0	6S	96E
-2506	Mar 26	05:53:20	59544	6124	-55730	-8	P	t-	0.7484	1.5199	0.4501	329.0	155.0	-	7N	163E
-2506	Sep 19	01:48:20	59531	6122	-55724	-3	P	a-	-0.6805	1.5926	0.6259	287.0	157.2	-	11S	138W
-2505	Feb 13	15:39:52	59519	6120	-55719	-36	N	-t	-1.3691	0.3727	-0.6805	177.9	-	-	18N	18E
-2505	Mar 15	06:20:39	59517	6119	-55718	2	N	t-	1.4782	0.1789	-0.8867	128.5	-	-	12N	157E
-2505	Aug 10	05:12:52	59506	6117	-55713	-31	N	-a	1.3238	0.4360	-0.5779	182.1	-	-	20S	170E
-2505	Sep 08	16:41:03	59504	6117	-55712	7	N	a-	-1.3907	0.3035	-0.6911	149.0	-	-	15S	1W
-2504	Feb 02	23:50:50	59493	6115	-55707	-26	P	-a	-0.5830	1.7886	0.7880	312.6	179.1	-	21N	105W
-2504	Jul 29	11:34:53	59479	6112	-55701	-21	P	-t	0.6348	1.7254	0.6615	336.2	178.8	-	23S	74E
-2503	Jan 22	14:05:40	59466	6110	-55695	-16	T+	p-	0.1424	2.5787	1.6145	319.2	209.6	94.3	23N	40E
-2503	Jul 18	12:13:32	59453	6107	-55689	-11	T-	pp	-0.0979	2.7185	1.6387	375.4	234.8	103.6	24S	63E
-2502	Jan 12	06:17:42	59439	6104	-55683	-6	P	a-	0.8311	1.3177	0.3480	271.7	123.1	-	25N	156E

-2502 Jul 07	13:58:07	59426	6102	-55677	-1	P	t-	-0.8343	1.3506	0.3043	306.3	127.0	-	25S	36E
-2502 Dec 03	05:39:16	59415	6100	-55672	-34	N	a-	-1.2541	0.5839	-0.4696	214.3	-	-	17N	162E
-2501 May 28	14:06:23	59402	6097	-55666	-29	N	a-	1.0507	0.9101	-0.0502	239.1	-	-	15S	34E
-2501 Jun 26	22:33:39	59399	6097	-55665	9	Nb	a-	-1.5261	0.0521	-0.9366	64.1	-	-	24S	94W
-2501 Nov 22	08:22:11	59388	6095	-55660	-24	P	t-	-0.6058	1.7973	0.6964	348.0	184.6	-	15N	121E
-2500 May 17	06:52:05	59375	6092	-55654	-19	T	-p	0.2946	2.2865	1.3476	311.1	202.8	79.0	13S	142E
-2500 Nov 10	07:16:46	59361	6090	-55648	-14	T+	pp	0.0676	2.7848	1.6839	376.0	233.3	103.3	11N	137E

25TH CENTURY BCE

In the 25th century BCE the total number of lunar eclipses was 256 lunar eclipses:
**99 penumbral lunar eclipses, 97 partial lunar eclipses, 60 total lunar eclipses
(47 central total lunar eclipses, 13 non-central total lunar eclipses).**

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG
GREATEST															
ECLIPSE															
-2499 May 06	23:34:11	59348	6087	-55642	-9	T	a-	-0.4577	1.9986	1.0373	311.8	193.0	29.1	10S	108W
-2499 Oct 30	10:04:49	59335	6085	-55636	-4	P	a-	0.7426	1.5225	0.4690	312.7	150.5	-	8N	94E
-2498 Mar 27	23:41:02	59324	6082	-55631	-37	N	t-	1.4526	0.2151	-0.8293	137.3	-	-	7N	104W
-2498 Apr 26	11:38:21	59321	6082	-55630	1	N	t-	-1.2735	0.5282	-0.4853	202.1	-	-	7S	72E
-2498 Sep 20	09:08:52	59310	6080	-55625	-32	N	a-	-1.3228	0.4172	-0.5556	167.9	-	-	11S	111E
-2498 Oct 19	20:15:29	59308	6079	-55624	6	N	a-	1.3719	0.3391	-0.6577	156.1	-	-	4N	58W
-2497 Mar 17	01:26:53	59297	6077	-55619	-27	P	t-	0.7344	1.5485	0.4731	332.5	158.8	-	11N	130W
-2497 Sep 10	01:08:01	59284	6075	-55613	-22	P	a-	-0.6549	1.6406	0.6716	291.1	162.4	-	14S	129W
-2496 Mar 05	02:24:03	59270	6072	-55607	-17	T-	pp	-0.0205	2.8494	1.7919	366.0	231.9	105.0	14N	144W
-2496 Aug 29	15:03:01	59257	6070	-55601	-12	T+	pp	0.0389	2.7901	1.7830	338.2	219.1	100.7	17S	22E

-2495	Feb 22	09:12:49	59244	6067	-55595	-7	P	a-	-0.7604	1.4663	0.4592	298.7	146.0	-	17N	113E
-2495	Aug 18	22:47:27	59230	6065	-55589	-2	P	t-	0.7954	1.4288	0.3688	313.4	138.5	-	19S	94W
-2494	Jan 13	13:37:29	59219	6062	-55584	-35	N	-a	1.1720	0.6887	-0.2740	208.4	-	-	25N	45E
-2494	Feb 11	22:41:47	59217	6062	-55583	3	N	a-	-1.4301	0.2160	-0.7482	123.4	-	-	19N	89W
-2494	Jul 09	07:38:30	59206	6060	-55578	-30	N	-t	-1.3767	0.3688	-0.7041	182.6	-	-	25S	130E
-2494	Aug 08	00:00:30	59204	6060	-55577	8	N	t-	1.5367	0.0820	-1.0045	89.0	-	-	21S	114W
-2493	Jan 03	05:25:24	59193	6057	-55572	-25	P	-a	0.5094	1.9140	0.9326	308.0	185.0	-	24N	167E
-2493	Jun 28	11:02:37	59179	6055	-55566	-20	P	-t	-0.5903	1.7895	0.7605	328.2	184.1	-	23S	78E
-2493	Dec 23	17:12:10	59166	6052	-55560	-15	T-	pp	-0.1920	2.5236	1.4879	345.9	218.9	92.4	23N	11W
-2492	Jun 16	21:44:10	59153	6050	-55554	-10	T+	p-	0.1944	2.4875	1.5149	327.5	213.2	92.3	21S	82W
-2492	Dec 11	21:41:43	59139	6047	-55548	-5	P	t-	-0.9226	1.2108	0.1204	302.7	83.4	-	20N	80W
-2491	Jun 06	13:49:58	59126	6045	-55542	0	P	a-	0.9209	1.1388	0.1973	254.6	94.3	-	18S	36E
-2491	Nov 01	01:59:08	59115	6043	-55537	-33	N	-t	1.4441	0.2541	-0.8365	152.0	-	-	9N	145W
-2490	Apr 27	23:11:23	59102	6040	-55531	-28	P	-a	-0.8666	1.2550	0.2804	275.4	115.0	-	7S	102W
-2490	Oct 21	06:52:26	59088	6038	-55525	-23	P	-a	0.7058	1.5808	0.5453	309.8	157.7	-	4N	142E
-2489	Apr 17	09:19:03	59075	6035	-55519	-18	T-	pp	-0.1115	2.6685	1.6386	355.5	227.2	101.5	2S	107E
-2489	Oct 10	18:51:11	59062	6032	-55513	-13	T-	pp	-0.0051	2.8404	1.8565	325.2	212.9	98.8	1S	37W
-2488	Apr 05	12:20:07	59048	6030	-55507	-8	P	t-	0.6696	1.6639	0.5953	338.6	174.3	-	3N	63E
-2488	Sep 29	10:27:58	59035	6027	-55501	-3	P	a-	-0.6709	1.6117	0.6421	288.4	158.9	-	6S	89E
-2487	Feb 23	22:52:33	59024	6025	-55496	-36	N	-t	-1.4155	0.2843	-0.7624	156.0	-	-	15N	92W
-2487	Mar 25	12:58:55	59022	6025	-55495	2	N	t-	1.4051	0.3106	-0.7502	166.7	-	-	8N	55E
-2487	Aug 20	12:58:55	59011	6023	-55490	-31	N	-a	1.3632	0.3671	-0.6535	169.0	-	-	18S	52E
-2487	Sep 19	01:02:02	59008	6022	-55489	7	N	a-	-1.3791	0.3277	-0.6725	155.1	-	-	11S	128W
-2486	Feb 13	07:40:06	58997	6020	-55484	-26	P	-a	-0.6201	1.7173	0.7231	307.7	173.0	-	19N	136E
-2486	Aug 09	18:44:37	58984	6018	-55478	-21	P	-t	0.6856	1.6353	0.5654	332.2	168.3	-	21S	35W
-2485	Feb 02	22:18:43	58971	6015	-55472	-16	T+	p-	0.1109	2.6343	1.6744	319.0	210.4	96.2	22N	84W
-2485	Jul 29	19:04:12	58958	6013	-55466	-11	T-	pp	-0.0380	2.8300	1.7473	376.2	235.6	105.6	23S	41W
-2484	Jan 23	14:37:36	58944	6010	-55460	-6	P	a-	0.8077	1.3600	0.3917	275.0	130.0	-	24N	30E
-2484	Jul 17	20:58:42	58931	6008	-55454	-1	P	t-	-0.7694	1.4696	0.4234	314.2	146.7	-	25S	70W
-2484	Dec 13	13:56:37	58920	6005	-55449	-34	N	-a	-1.2632	0.5679	-0.4869	212.3	-	-	20N	36E

-2483	Jan 12	03:55:55	58918	6005	-55448	4	N	a-	1.5577	0.0082	-1.0084	25.9	-	-	25N	171W
-2483	Jun 07	21:24:40	58907	6003	-55443	-29	N	-a	1.1194	0.7834	-0.1756	224.1	-	-	18S	78W
-2483	Jul 07	05:55:33	58904	6003	-55442	9	N	a-	-1.4601	0.1728	-0.8150	115.0	-	-	25S	154E
-2483	Dec 02	16:22:21	58893	6000	-55437	-24	P	-t	-0.6118	1.7864	0.6854	347.8	183.7	-	18N	1W
-2482	May 28	14:15:49	58880	5998	-55431	-19	T	-a	0.3692	2.1502	1.2104	307.8	197.6	64.3	16S	29E
-2482	Nov 21	15:21:33	58867	5995	-55425	-14	T+	pp	0.0655	2.7876	1.6888	375.2	233.1	103.3	15N	13E
-2481	May 18	06:45:13	58853	5993	-55419	-9	T	p-	-0.3812	2.1404	1.1762	317.5	200.8	60.8	14S	142E
-2481	Nov 10	18:31:53	58840	5990	-55413	-4	P	a-	0.7417	1.5227	0.4720	311.5	150.4	-	12N	35W
-2480	Apr 07	06:20:57	58829	5988	-55408	-37	Ne	-t	1.5323	0.0694	-0.9760	79.2	-	-	3N	152E
-2480	May 06	18:23:39	58827	5988	-55407	1	N	t-	-1.1976	0.6691	-0.3477	225.4	-	-	10S	33W
-2480	Sep 30	17:48:52	58816	5986	-55402	-32	N	-a	-1.3299	0.4046	-0.5691	165.3	-	-	6S	21W
-2480	Oct 30	05:01:50	58814	5985	-55401	6	N	a-	1.3693	0.3432	-0.6521	156.6	-	-	8N	168E
-2479	Mar 27	07:56:37	58802	5983	-55396	-27	P	-t	0.8113	1.4063	0.3332	322.0	136.2	-	7N	129E
-2479	Sep 20	09:40:23	58789	5981	-55390	-22	P	-a	-0.6708	1.6136	0.6407	290.3	159.6	-	10S	101E
-2478	Mar 16	09:15:50	58776	5978	-55384	-17	T+	pp	0.0460	2.7997	1.7480	364.2	231.2	104.6	10N	110E
-2478	Sep 09	23:10:35	58763	5976	-55378	-12	T+	pp	0.0159	2.8355	1.8221	340.0	219.7	101.0	13S	102W
-2477	Mar 05	16:40:34	58749	5973	-55372	-7	P	a-	-0.7048	1.5651	0.5645	303.4	158.7	-	13N	1W
-2477	Aug 30	06:20:33	58736	5971	-55366	-2	P	t-	0.7634	1.4907	0.4243	319.3	147.7	-	16S	150E
-2476	Jan 24	21:59:06	58725	5968	-55361	-35	N	-a	1.1967	0.6418	-0.3175	201.9	-	-	24N	81W
-2476	Feb 23	06:36:08	58723	5968	-55360	3	N	a-	-1.3841	0.2979	-0.6615	143.4	-	-	16N	150E
-2476	Jul 19	14:23:37	58712	5966	-55355	-30	N	-t	-1.4388	0.2557	-0.8189	153.5	-	-	25S	28E
-2476	Aug 18	07:08:33	58710	5966	-55354	8	N	t-	1.4929	0.1644	-0.9260	125.3	-	-	18S	138E
-2475	Jan 13	13:50:04	58699	5963	-55349	-25	P	-a	0.5293	1.8771	0.8963	307.1	182.9	-	24N	40E
-2475	Jul 08	18:05:05	58685	5961	-55343	-20	P	-t	-0.6540	1.6722	0.6441	320.8	172.1	-	24S	29W
-2474	Jan 03	01:24:00	58672	5958	-55337	-15	T-	pp	-0.1788	2.5483	1.5120	347.4	220.1	94.0	24N	135W
-2474	Jun 28	05:06:51	58659	5956	-55331	-10	T+	p-	0.1273	2.6100	1.6384	327.9	214.9	97.2	23S	165E
-2474	Dec 23	05:37:04	58645	5953	-55325	-5	P	t-	-0.9135	1.2273	0.1373	304.8	89.0	-	22N	160E
-2473	Jun 17	21:18:18	58632	5951	-55319	0	P	a-	0.8516	1.2664	0.3239	264.5	118.6	-	20S	78W
-2473	Nov 12	10:08:50	58621	5949	-55314	-33	N	-t	1.4415	0.2577	-0.8307	152.7	-	-	13N	90E
-2472	May 08	06:17:24	58608	5946	-55308	-28	P	-a	-0.9459	1.1111	0.1335	264.3	81.3	-	11S	148E

-2472	Oct 31	15:24:23	58595	5944	-55302	-23	P	-a	0.7026	1.5855	0.5525	308.9	158.1	-	8N	12E
-2471	Apr 27	15:58:03	58581	5941	-55296	-18	T-	pp	-0.1939	2.5185	1.4861	355.2	225.0	95.0	6S	4E
-2471	Oct 21	03:38:08	58568	5939	-55290	-13	T-	pp	-0.0040	2.8421	1.8588	324.6	212.6	98.7	3N	171W
-2470	Apr 16	18:41:08	58555	5936	-55284	-8	P	t-	0.5863	1.8164	0.7485	347.4	190.6	-	1S	35W
-2470	Oct 10	19:13:07	58542	5934	-55278	-3	P	a-	-0.6662	1.6216	0.6495	289.3	159.7	-	2S	44W
-2469	Mar 07	05:57:53	58531	5932	-55273	-36	N	-t	-1.4683	0.1843	-0.8560	126.1	-	-	12N	159E
-2469	Apr 05	19:31:39	58528	5931	-55272	2	N	t-	1.3264	0.4528	-0.6036	198.0	-	-	4N	47W
-2469	Aug 31	20:52:31	58517	5929	-55267	-31	N	-a	1.3954	0.3115	-0.7158	157.3	-	-	15S	69W
-2469	Sep 30	09:29:47	58515	5929	-55266	7	N	a-	-1.3738	0.3400	-0.6654	158.4	-	-	7S	102E
-2468	Feb 24	15:20:03	58504	5926	-55261	-26	P	-a	-0.6656	1.6307	0.6428	301.6	164.8	-	16N	19E
-2468	Aug 20	02:03:06	58491	5924	-55255	-21	P	-t	0.7282	1.5601	0.4842	328.7	158.1	-	19S	146W
-2467	Feb 13	06:23:03	58478	5921	-55249	-16	T+	pp	0.0721	2.7035	1.7476	318.8	211.0	97.9	20N	153E
-2467	Aug 09	02:04:44	58464	5919	-55243	-11	T+	pp	0.0142	2.8752	1.7895	376.4	235.5	105.7	22S	147W
-2466	Feb 02	22:49:27	58451	5916	-55237	-6	P	a-	0.7783	1.4133	0.4463	279.0	137.9	-	23N	94W
-2466	Jul 29	04:09:09	58438	5914	-55231	-1	P	t-	-0.7116	1.5757	0.5294	320.3	160.8	-	24S	179W
-2466	Dec 24	22:08:39	58427	5912	-55226	-34	N	-a	-1.2757	0.5453	-0.5103	209.2	-	-	22N	88W
-2465	Jan 23	11:59:34	58425	5911	-55225	4	N	a-	1.5390	0.0427	-0.9741	59.0	-	-	25N	67E
-2465	Jun 19	04:46:17	58414	5909	-55220	-29	N	-a	1.1857	0.6613	-0.2969	207.9	-	-	20S	169E
-2465	Jul 18	13:24:16	58411	5909	-55219	9	N	a-	-1.3987	0.2852	-0.7022	145.7	-	-	25S	41E
-2465	Dec 14	00:19:23	58400	5907	-55214	-24	P	-t	-0.6198	1.7714	0.6710	347.3	182.4	-	21N	122W
-2464	Jun 07	21:41:14	58387	5904	-55208	-19	T	-a	0.4419	2.0175	1.0763	304.0	191.1	40.4	19S	85W
-2464	Dec 01	23:24:02	58374	5902	-55202	-14	T+	pp	0.0613	2.7939	1.6980	374.3	232.9	103.4	18N	109W
-2463	May 28	13:57:14	58361	5899	-55196	-9	T	p-	-0.3065	2.2794	1.3116	322.4	206.9	77.4	17S	31E
-2463	Nov 21	02:58:58	58348	5897	-55190	-4	P	a-	0.7405	1.5230	0.4760	310.3	150.5	-	16N	164W
-2462	May 18	01:07:53	58334	5894	-55184	1	N	t-	-1.1214	0.8107	-0.2098	245.7	-	-	14S	137W
-2462	Oct 12	02:33:19	58323	5892	-55179	-32	N	-a	-1.3338	0.3978	-0.5766	163.9	-	-	2S	155W
-2462	Nov 10	13:48:55	58321	5892	-55178	6	N	a-	1.3671	0.3461	-0.6471	156.8	-	-	12N	34E
-2461	Apr 07	14:21:06	58310	5890	-55173	-27	P	-t	0.8920	1.2571	0.1862	309.4	104.0	-	2N	30E
-2461	Oct 01	18:18:29	58297	5887	-55167	-22	P	-a	-0.6817	1.5954	0.6188	289.9	157.6	-	6S	31W
-2460	Mar 26	16:00:12	58284	5885	-55161	-17	T+	pp	0.1194	2.6622	1.6160	361.7	229.3	101.4	6N	6E

-2460	Sep 20	07:25:38	58270	5882	-55155	-12	T-	pp	-0.0001	2.8675	1.8482	341.7	220.2	101.1	9S	132E
-2459	Mar 16	00:00:45	58257	5880	-55149	-7	P	a-	-0.6417	1.6777	0.6832	308.3	170.8	-	10N	114W
-2459	Sep 09	14:01:58	58244	5877	-55143	-2	P	t-	0.7389	1.5388	0.4664	323.9	154.2	-	13S	33E
-2458	Feb 04	06:11:32	58233	5875	-55138	-35	N	-a	1.2290	0.5809	-0.3752	193.1	-	-	23N	155E
-2458	Mar 05	14:22:48	58231	5875	-55137	3	N	a-	-1.3316	0.3920	-0.5629	162.7	-	-	13N	31E
-2458	Jul 30	21:19:22	58220	5873	-55132	-30	N	-t	-1.4925	0.1581	-0.9185	121.6	-	-	24S	77W
-2458	Aug 29	14:27:12	58218	5872	-55131	8	N	t-	1.4571	0.2319	-0.8622	148.0	-	-	16S	26E
-2457	Jan 24	22:05:36	58206	5870	-55126	-25	P	-a	0.5563	1.8271	0.8471	305.6	179.8	-	24N	85W
-2457	Jul 20	01:15:40	58193	5868	-55120	-20	P	-t	-0.7119	1.5657	0.5381	313.4	159.5	-	25S	137W
-2456	Jan 14	09:27:09	58180	5865	-55114	-15	T-	pp	-0.1591	2.5844	1.5480	349.0	221.6	96.0	24N	103E
-2456	Jul 08	12:36:06	58167	5863	-55108	-10	T+	pp	0.0650	2.7243	1.7530	327.8	215.5	99.7	24S	51E
-2455	Jan 02	13:24:19	58154	5860	-55102	-5	P	t-	-0.8982	1.2549	0.1659	307.7	97.6	-	23N	43E
-2455	Jun 28	04:51:47	58140	5858	-55096	0	P	a-	0.7864	1.3868	0.4426	273.0	136.1	-	22S	167E
-2455	Nov 22	18:19:50	58130	5855	-55091	-33	N	-t	1.4386	0.2616	-0.8240	153.3	-	-	17N	35W
-2455	Dec 22	12:42:55	58127	5855	-55090	5	N	t-	-1.5786	0.0112	-1.0872	33.0	-	-	21N	52E
-2454	May 19	13:21:35	58116	5853	-55085	-28	N	-a	-1.0255	0.9669	-0.0142	251.5	-	-	15S	39E
-2454	Jun 17	21:31:09	58114	5853	-55084	10	Nb	a-	1.5270	0.0365	-0.9246	52.0	-	-	20S	83W
-2454	Nov 11	23:59:06	58103	5850	-55079	-23	P	-a	0.6978	1.5928	0.5627	308.2	158.8	-	12N	119W
-2453	May 08	22:33:36	58090	5848	-55073	-18	T	-t	-0.2783	2.3652	1.3299	353.7	221.0	83.4	10S	98W
-2453	Nov 01	12:28:28	58077	5845	-55067	-13	T-	pp	-0.0057	2.8386	1.8562	324.0	212.2	98.5	8N	53E
-2452	Apr 27	00:57:41	58063	5843	-55061	-8	P	t-	0.4995	1.9755	0.9079	355.1	204.2	-	6S	133W
-2452	Oct 21	04:02:25	58050	5840	-55055	-3	P	a-	-0.6653	1.6242	0.6500	289.8	159.8	-	3N	179W
-2451	Mar 17	12:57:56	58039	5838	-55050	-36	Ne	-t	-1.5254	0.0763	-0.9578	81.6	-	-	8N	51E
-2451	Apr 16	02:02:16	58037	5838	-55049	2	N	t-	1.2450	0.6000	-0.4523	224.0	-	-	1S	147W
-2451	Sep 11	04:52:43	58026	5836	-55044	-31	N	-a	1.4211	0.2674	-0.7663	147.0	-	-	11S	169E
-2451	Oct 10	18:01:12	58024	5835	-55043	7	N	a-	-1.3723	0.3451	-0.6650	160.2	-	-	2S	28W
-2450	Mar 06	22:54:59	58013	5833	-55038	-26	P	-a	-0.7158	1.5354	0.5535	294.8	154.7	-	13N	98W
-2450	Aug 31	09:30:01	58000	5831	-55032	-21	P	-t	0.7631	1.4990	0.4175	325.6	148.7	-	16S	100E
-2449	Feb 24	14:19:39	57987	5828	-55026	-16	T+	pp	0.0266	2.7851	1.8330	318.5	211.4	98.9	17N	32E
-2449	Aug 20	09:15:08	57973	5826	-55020	-11	T+	pp	0.0583	2.7956	1.7072	376.2	234.9	104.7	19S	104E

-2448	Feb 14	06:51:18	57960	5823	-55014	-6	P	a-	0.7412	1.4807	0.5150	283.8	146.9	-	20N	144E
-2448	Aug 08	11:31:27	57947	5821	-55008	-1	P	h-	-0.6626	1.6656	0.6191	324.8	170.9	-	22S	69E
-2447	Jan 04	06:10:08	57936	5819	-55003	-34	N	-h	-1.2956	0.5089	-0.5470	203.4	-	-	23N	151E
-2447	Feb 02	19:50:50	57934	5818	-55002	4	N	h-	1.5116	0.0929	-0.9239	87.0	-	-	23N	52W
-2447	Jun 29	12:15:48	57923	5816	-54997	-29	N	-a	1.2460	0.5506	-0.4074	191.3	-	-	22S	55E
-2447	Jul 28	21:04:25	57921	5816	-54996	9	N	a-	-1.3458	0.3823	-0.6051	166.6	-	-	25S	75W
-2447	Dec 24	08:08:50	57910	5814	-54991	-24	P	t-	-0.6331	1.7462	0.6472	346.1	180.0	-	22N	120E
-2446	Jun 19	05:10:07	57896	5811	-54985	-19	P	-a	0.5115	1.8909	0.9475	299.7	183.6	-	21S	161E
-2446	Dec 13	07:23:34	57883	5809	-54979	-14	T+	pp	0.0543	2.8049	1.7127	373.3	232.7	103.7	21N	130E
-2445	Jun 08	21:09:04	57870	5806	-54973	-9	T-	p-	-0.2326	2.4172	1.4451	326.6	211.7	88.3	20S	79W
-2445	Dec 02	11:25:33	57857	5804	-54967	-4	P	a-	0.7378	1.5258	0.4830	309.2	151.0	-	19N	68E
-2444	May 28	07:48:59	57844	5801	-54961	1	N	t-	-1.0433	0.9562	-0.0686	264.0	-	-	18S	121E
-2444	Oct 22	11:23:36	57833	5799	-54956	-32	N	-a	-1.3337	0.3982	-0.5765	163.8	-	-	3N	70E
-2444	Nov 20	22:37:25	57831	5799	-54955	6	N	a-	1.3656	0.3475	-0.6431	156.7	-	-	16N	101W
-2443	Apr 17	20:40:14	57820	5797	-54950	-27	P	t-	0.9768	1.1005	0.0315	294.2	43.7	-	2S	68W
-2443	Oct 12	03:01:42	57806	5794	-54944	-22	P	-a	-0.6882	1.5850	0.6051	290.0	156.4	-	1S	165W
-2442	Apr 06	22:41:46	57793	5792	-54938	-17	T+	pp	0.1960	2.5191	1.4779	358.2	226.0	94.9	2N	98W
-2442	Oct 01	15:46:30	57780	5789	-54932	-12	T-	pp	-0.0105	2.8511	1.8263	343.3	220.7	101.1	5S	4E
-2441	Mar 27	07:16:25	57767	5787	-54926	-7	P	a-	-0.5739	1.7992	0.8106	312.9	181.5	-	6N	134E
-2441	Sep 20	21:50:03	57754	5784	-54920	-2	P	t-	0.7203	1.5757	0.4977	327.6	158.9	-	9S	87W
-2440	Feb 15	14:16:33	57743	5782	-54915	-35	N	-a	1.2676	0.5085	-0.4445	181.8	-	-	20N	32E
-2440	Mar 15	22:03:18	57741	5782	-54914	3	N	a-	-1.2737	0.4962	-0.4547	180.8	-	-	9N	87W
-2440	Aug 10	04:25:05	57730	5780	-54909	-30	N	t-	-1.5387	0.0743	-1.0041	83.9	-	-	23S	175E
-2440	Sep 08	21:54:47	57728	5779	-54908	8	N	t-	1.4279	0.2871	-0.8103	164.0	-	-	12S	88W
-2439	Feb 04	06:11:32	57717	5777	-54903	-25	P	-a	0.5910	1.7633	0.7839	303.4	175.3	-	22N	152E
-2439	Jul 30	08:37:40	57703	5775	-54897	-20	P	t-	-0.7615	1.4745	0.4471	306.3	147.0	-	24S	111E
-2438	Jan 24	17:20:30	57690	5772	-54891	-15	T-	pp	-0.1320	2.6342	1.5976	350.7	223.2	98.4	23N	16W
-2438	Jul 19	20:13:32	57677	5770	-54885	-10	T+	pp	0.0086	2.8278	1.8564	327.2	215.4	100.3	24S	64W
-2437	Jan 13	21:02:20	57664	5767	-54879	-5	P	t-	-0.8757	1.2954	0.2079	311.6	108.8	-	23N	73W
-2437	Jul 09	12:31:12	57651	5765	-54873	0	P	a-	0.7259	1.4990	0.5526	280.2	149.5	-	23S	51E

-2437	Dec 04	02:27:57	57640	5763	-54868	-33	N	-t	1.4383	0.2602	-0.8216	152.4	-	-	20N	158W
-2436	Jan 02	20:25:48	57638	5763	-54867	5	N	t-	-1.5598	0.0436	-1.0506	64.9	-	-	22N	65W
-2436	May 29	20:24:43	57627	5760	-54862	-28	N	-a	-1.1047	0.8236	-0.1617	236.6	-	-	18S	69W
-2436	Jun 28	04:55:31	57624	5760	-54861	10	N	a-	1.4673	0.1485	-0.8172	104.2	-	-	22S	164E
-2436	Nov 22	08:33:39	57614	5758	-54856	-23	P	-a	0.6941	1.5977	0.5712	307.3	159.4	-	16N	110E
-2435	May 19	05:07:03	57600	5755	-54850	-18	T	-t	-0.3631	2.2112	1.1725	351.1	214.9	63.9	14S	161E
-2435	Nov 11	21:19:33	57587	5753	-54844	-13	T-	pp	-0.0075	2.8345	1.8536	323.3	211.9	98.4	12N	82W
-2434	May 08	07:12:23	57574	5751	-54838	-8	T	t-	0.4111	2.1378	1.0702	361.7	215.2	43.1	10S	131E
-2434	Nov 01	12:54:57	57561	5748	-54832	-3	P	a-	-0.6674	1.6213	0.6454	290.0	159.5	-	7N	45E
-2433	Apr 27	08:29:01	57548	5746	-54826	2	N	t-	1.1591	0.7557	-0.2929	246.7	-	-	5S	113E
-2433	Sep 22	13:00:32	57537	5744	-54821	-31	N	-a	1.4399	0.2361	-0.8038	139.1	-	-	7S	45E
-2433	Oct 22	02:37:52	57535	5743	-54820	7	N	a-	-1.3757	0.3410	-0.6734	159.9	-	-	2N	160W
-2432	Mar 17	06:22:28	57524	5741	-54815	-26	P	-a	-0.7732	1.4274	0.4512	286.6	141.5	-	9N	148E
-2432	Sep 10	17:05:46	57511	5739	-54809	-21	P	-t	0.7900	1.4522	0.3654	323.3	140.5	-	12S	16W
-2431	Mar 06	22:08:14	57498	5736	-54803	-16	T-	pp	-0.0259	2.7845	1.8359	318.0	211.4	99.1	13N	88W
-2431	Aug 30	16:36:46	57484	5734	-54797	-11	T+	pp	0.0936	2.7321	1.6411	375.7	233.9	103.0	16S	9W
-2430	Feb 24	14:45:29	57471	5731	-54791	-6	P	a-	0.6984	1.5587	0.5940	289.0	156.1	-	17N	23E
-2430	Aug 19	19:03:09	57458	5729	-54785	-1	P	h-	-0.6204	1.7432	0.6965	328.1	178.3	-	20S	45W
-2429	Jan 15	14:04:12	57447	5727	-54780	-34	N	-h	-1.3207	0.4630	-0.5929	195.4	-	-	23N	31E
-2429	Feb 14	03:33:34	57445	5726	-54779	4	N	h-	1.4783	0.1540	-0.8628	111.7	-	-	21N	169W
-2429	Jul 10	19:50:52	57434	5724	-54774	-29	N	-a	1.3021	0.4479	-0.5105	173.9	-	-	23S	60W
-2429	Aug 09	04:52:41	57432	5724	-54773	9	N	a-	-1.2989	0.4685	-0.5190	182.4	-	-	23S	167E
-2428	Jan 04	15:50:50	57421	5722	-54768	-24	P	-t	-0.6524	1.7099	0.6129	344.1	176.4	-	23N	3E
-2428	Jun 29	12:43:18	57408	5719	-54762	-19	P	-a	0.5773	1.7715	0.8254	295.0	175.2	-	23S	46E
-2428	Dec 23	15:17:50	57395	5717	-54756	-14	T+	pp	0.0425	2.8244	1.7365	372.1	232.5	104.0	23N	10E
-2427	Jun 19	04:24:15	57382	5714	-54750	-9	T-	pp	-0.1620	2.5490	1.5722	330.0	215.2	95.3	22S	170E
-2427	Dec 12	19:47:59	57369	5712	-54744	-4	P	a-	0.7310	1.5358	0.4979	308.5	152.5	-	22N	59W
-2426	Jun 08	14:32:32	57355	5709	-54738	1	P	t-	-0.9678	1.0970	0.0675	279.9	61.3	-	20S	18E
-2426	Nov 02	20:15:52	57344	5707	-54733	-32	N	-a	-1.3324	0.4004	-0.5741	164.0	-	-	7N	66W
-2426	Dec 02	07:23:35	57342	5707	-54732	6	N	a-	1.3621	0.3524	-0.6351	157.3	-	-	20N	126E

-2425	Apr 29	02:55:57	57331	5705	-54727	-27	N	-t	1.0641	0.9397	-0.1279	276.3	-	-	6S	165W
-2425	Oct 23	11:48:44	57318	5702	-54721	-22	P	-a	-0.6914	1.5807	0.5979	290.4	155.8	-	3N	61E
-2424	Apr 17	05:19:29	57305	5700	-54715	-17	T	pp	0.2764	2.3691	1.3327	353.8	221.0	83.6	2S	160E
-2424	Oct 12	00:12:12	57292	5697	-54709	-12	T-	pp	-0.0162	2.8433	1.8134	344.9	221.2	101.1	0S	125W
-2423	Apr 06	14:27:28	57279	5695	-54703	-7	P	a-	-0.5013	1.9298	0.9465	317.1	190.9	-	1N	24E
-2423	Oct 01	05:45:45	57266	5692	-54697	-2	P	t-	0.7087	1.5994	0.5164	330.3	161.7	-	4S	152E
-2422	Feb 25	22:12:53	57255	5690	-54692	-35	N	-a	1.3134	0.4230	-0.5272	167.1	-	-	17N	89W
-2422	Mar 27	05:37:41	57253	5690	-54691	3	N	a-	-1.2104	0.6105	-0.3369	197.9	-	-	5N	157E
-2422	Aug 21	11:41:15	57242	5688	-54686	-30	Ne	-t	-1.5770	0.0050	-1.0752	21.8	-	-	20S	65E
-2422	Sep 20	05:31:28	57240	5687	-54685	8	N	t-	1.4057	0.3294	-0.7709	175.1	-	-	8S	156E
-2421	Feb 15	14:07:59	57229	5685	-54680	-25	P	-a	0.6329	1.6860	0.7072	300.4	169.1	-	20N	32E
-2421	Aug 10	16:09:39	57216	5683	-54674	-20	P	-h	-0.8041	1.3964	0.3691	299.8	134.7	-	22S	3W
-2420	Feb 05	01:02:13	57202	5680	-54668	-15	T-	pp	-0.0962	2.6998	1.6634	352.5	224.8	100.8	21N	133W
-2420	Jul 30	03:59:53	57189	5678	-54662	-10	T-	pp	-0.0410	2.7686	1.7967	326.2	214.6	99.7	23S	178E
-2419	Jan 24	04:30:39	57176	5676	-54656	-5	P	t-	-0.8455	1.3497	0.2641	316.5	121.7	-	22N	174E
-2419	Jul 19	20:17:13	57163	5673	-54650	0	P	a-	0.6711	1.6010	0.6519	286.2	159.9	-	23S	67W
-2419	Dec 14	10:33:25	57152	5671	-54645	-33	N	-t	1.4407	0.2536	-0.8238	150.1	-	-	23N	79E
-2418	Jan 13	04:02:22	57150	5671	-54644	5	N	t-	-1.5354	0.0859	-1.0037	90.6	-	-	23N	180W
-2418	Jun 10	03:29:15	57139	5669	-54639	-28	N	-a	-1.1817	0.6848	-0.3053	219.8	-	-	21S	177W
-2418	Jul 09	12:24:32	57137	5668	-54638	10	N	a-	1.4118	0.2529	-0.7179	135.2	-	-	22S	50E
-2418	Dec 03	17:07:54	57126	5666	-54633	-23	P	-a	0.6913	1.6008	0.5785	306.2	159.7	-	19N	20W
-2417	May 30	11:38:49	57113	5664	-54627	-18	T	-t	-0.4483	2.0569	1.0144	347.3	206.7	19.4	17S	60E
-2417	Nov 23	06:11:17	57100	5661	-54621	-13	T-	pp	-0.0096	2.8298	1.8507	322.7	211.7	98.4	16N	144E
-2416	May 18	13:26:39	57087	5659	-54615	-8	T	tp	0.3221	2.3013	1.2332	366.9	223.6	74.4	13S	34E
-2416	Nov 11	21:47:37	57074	5656	-54609	-3	P	a-	-0.6699	1.6173	0.6402	290.2	159.2	-	11N	91W
-2415	May 07	14:57:26	57061	5654	-54603	2	N	t-	1.0734	0.9113	-0.1340	265.7	-	-	9S	12E
-2415	Oct 02	21:14:00	57050	5652	-54598	-31	N	-a	1.4535	0.2140	-0.8314	133.3	-	-	3S	81W
-2415	Nov 01	11:15:50	57048	5651	-54597	7	N	a-	-1.3807	0.3337	-0.6844	158.8	-	-	7N	68E
-2414	Mar 28	13:46:11	57037	5649	-54592	-26	P	-a	-0.8341	1.3128	0.3419	277.4	124.8	-	5N	34E
-2414	Sep 22	00:48:09	57024	5647	-54586	-21	P	-t	0.8109	1.4164	0.3247	321.6	133.5	-	8S	134W

-2413	Mar 18	05:50:20	57011	5644	-54580	-16	T-	pp	-0.0839	2.6766	1.7310	317.1	210.8	97.8	9N	154E
-2413	Sep 11	00:08:08	56997	5642	-54574	-11	T+	pp	0.1210	2.6830	1.5898	375.2	232.9	101.1	13S	124W
-2412	Mar 06	22:28:35	56984	5639	-54568	-6	P	a-	0.6472	1.6524	0.6883	294.8	165.9	-	14N	95W
-2412	Aug 30	02:46:59	56971	5637	-54562	-1	P	a-	-0.5875	1.8037	0.7568	330.2	183.4	-	17S	163W
-2411	Jan 25	21:46:03	56960	5635	-54557	-34	N	-h	-1.3542	0.4013	-0.6543	183.5	-	-	22N	85W
-2411	Feb 24	11:04:09	56958	5635	-54556	4	N	h-	1.4366	0.2307	-0.7864	136.3	-	-	18N	77E
-2411	Jul 21	03:34:45	56947	5633	-54551	-29	N	-a	1.3515	0.3576	-0.6016	156.5	-	-	22S	177W
-2411	Aug 19	12:51:39	56945	5632	-54550	9	N	a-	-1.2600	0.5400	-0.4479	194.0	-	-	21S	45E
-2410	Jan 14	23:22:57	56934	5630	-54545	-24	P	-t	-0.6792	1.6595	0.5650	341.1	170.8	-	23N	111W
-2410	Jul 10	20:22:23	56921	5628	-54539	-19	P	-a	0.6378	1.6622	0.7128	290.2	166.0	-	23S	70W
-2409	Jan 03	23:06:00	56908	5625	-54533	-14	T+	pp	0.0251	2.8537	1.7709	370.9	232.3	104.3	24N	108W
-2409	Jun 30	11:41:12	56895	5623	-54527	-9	T-	pp	-0.0940	2.6766	1.6944	332.8	217.5	99.4	23S	59E
-2409	Dec 24	04:07:24	56882	5620	-54521	-4	P	a-	0.7210	1.5514	0.5190	308.1	154.8	-	24N	175E
-2408	Jun 18	21:16:49	56869	5618	-54515	1	P	t-	-0.8938	1.2355	0.2007	293.9	104.0	-	23S	85W
-2408	Nov 13	05:09:56	56858	5616	-54510	-32	N	-a	-1.3301	0.4043	-0.5694	164.6	-	-	11N	158E
-2408	Dec 12	16:07:00	56856	5615	-54509	6	N	a-	1.3563	0.3613	-0.6226	158.7	-	-	22N	6W
-2407	May 09	09:10:23	56845	5613	-54504	-27	N	-t	1.1519	0.7780	-0.2884	255.3	-	-	10S	98E
-2407	Nov 02	20:38:49	56832	5611	-54498	-22	P	-a	-0.6915	1.5818	0.5966	291.2	156.0	-	8N	74W
-2406	Apr 28	11:56:37	56819	5608	-54492	-17	T	-t	0.3583	2.2168	1.1847	348.3	214.2	65.5	6S	57E
-2406	Oct 23	08:41:15	56806	5606	-54486	-12	T-	pp	-0.0182	2.8419	1.8074	346.4	221.7	101.2	4N	105E
-2405	Apr 17	21:36:38	56793	5604	-54480	-7	T	a-	-0.4261	2.0653	1.0868	320.6	198.7	44.3	3S	87W
-2405	Oct 12	13:46:10	56780	5601	-54474	-2	P	t-	0.7012	1.6155	0.5280	332.5	163.5	-	0N	29E
-2404	Mar 08	06:01:17	56769	5599	-54469	-35	N	-a	1.3659	0.3255	-0.6223	148.0	-	-	14N	151E
-2404	Apr 06	13:07:03	56767	5599	-54468	3	N	a-	-1.1426	0.7335	-0.2109	213.9	-	-	1N	41E
-2404	Sep 30	13:16:03	56754	5596	-54462	8	N	t-	1.3892	0.3608	-0.7417	182.7	-	-	4S	37E
-2403	Feb 25	21:55:28	56743	5594	-54457	-25	P	-a	0.6819	1.5960	0.6174	296.3	160.8	-	17N	87W
-2403	Aug 20	23:52:16	56730	5592	-54451	-20	P	-h	-0.8389	1.3325	0.3053	294.0	123.3	-	20S	120W
-2402	Feb 15	08:33:53	56717	5589	-54445	-15	T-	pp	-0.0529	2.7792	1.7428	354.1	226.3	102.7	19N	113E
-2402	Aug 10	11:55:43	56704	5587	-54439	-10	T-	pp	-0.0834	2.6912	1.7186	325.2	213.5	98.2	21S	58E
-2401	Feb 04	11:47:55	56691	5584	-54433	-5	P	t-	-0.8068	1.4198	0.3363	322.3	136.1	-	21N	64E

-2401 Jul 31	04:10:42	56678	5582	-54427	0	P	a-	0.6225	1.6917	0.7394	291.2	167.8	-	22S	173E
-2401 Dec 25	18:33:31	56667	5580	-54422	-33	N	-t	1.4481	0.2374	-0.8348	144.9	-	-	24N	42W
-2400 Jan 24	11:29:22	56665	5579	-54421	5	N	t-	-1.5027	0.1435	-0.9410	116.2	-	-	22N	67E
-2400 Jun 20	10:36:19	56654	5577	-54416	-28	N	-a	-1.2554	0.5522	-0.4432	200.9	-	-	23S	74E
-2400 Jul 19	20:00:17	56652	5577	-54415	10	N	a-	1.3621	0.3467	-0.6296	157.5	-	-	23S	65W
-2400 Dec 14	01:37:27	56641	5575	-54410	-23	P	-a	0.6934	1.5946	0.5771	304.6	159.1	-	22N	149W

24TH CENTURY BCE

In the 24th century BCE the total number of lunar eclipses was 251 lunar eclipses:
**91 penumbral lunar eclipses, 100 partial lunar eclipses, 60 total lunar eclipses
(51 central total lunar eclipses, 9 non-central total lunar eclipses).**

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG
GREATEST S															
ECLIPSE															
-2399 Jun 09	18:12:39	56628	5573	-54404	-18	P	-t	-0.5307	1.9079	0.8609	342.6	196.4	-	20S	40W
-2399 Dec 03	15:01:12	56615	5570	-54398	-13	T-	pp	-0.0095	2.8288	1.8521	322.0	211.5	98.4	19N	9E
-2398 May 29	19:41:24	56602	5568	-54392	-8	T+	pp	0.2334	2.4645	1.3956	370.7	229.7	91.2	17S	62W
-2398 Nov 23	06:40:27	56589	5565	-54386	-3	P	a-	-0.6728	1.6122	0.6344	290.3	158.8	-	15N	134E
-2397 May 18	21:25:37	56576	5563	-54380	2	P	t-	0.9859	1.0705	0.0280	282.2	40.3	-	13S	88W
-2397 Oct 14	05:32:58	56565	5561	-54375	-31	N	-a	1.4615	0.2018	-0.8488	130.1	-	-	2N	151E
-2397 Nov 12	19:55:11	56563	5560	-54374	7	N	a-	-1.3878	0.3223	-0.6990	156.8	-	-	11N	64W
-2396 Apr 07	21:04:02	56552	5558	-54369	-26	P	-a	-0.9006	1.1885	0.2223	266.6	102.1	-	0N	79W
-2396 Oct 02	08:38:33	56539	5556	-54363	-21	P	-t	0.8245	1.3935	0.2976	320.6	128.5	-	3S	106E
-2395 Mar 28	13:26:32	56526	5553	-54357	-16	T-	-p	-0.1469	2.5598	1.6166	315.9	209.3	94.7	5N	37E
-2395 Sep 21	07:48:18	56513	5551	-54351	-11	T+	pp	0.1414	2.6464	1.5514	374.5	231.9	99.4	9S	119E
-2394 Mar 18	06:05:26	56500	5549	-54345	-6	P	a-	0.5914	1.7547	0.7908	300.6	175.3	-	10N	148E

-2394	Sep 10	10:40:26	56487	5546	-54339	-1	P	a-	-0.5615	1.8513	0.8044	331.5	187.0	-	13S	76E
-2393	Feb 06	05:18:35	56476	5544	-54334	-34	N	t-	-1.3944	0.3273	-0.7278	167.4	-	-	20N	160E
-2393	Mar 07	18:25:28	56474	5544	-54333	4	N	t-	1.3882	0.3198	-0.6977	159.7	-	-	14N	36W
-2393	Aug 01	11:25:47	56463	5542	-54328	-29	N	a-	1.3957	0.2772	-0.6833	138.6	-	-	21S	64E
-2393	Aug 30	20:59:23	56461	5541	-54327	9	N	a-	-1.2277	0.5995	-0.3888	202.6	-	-	18S	78W
-2392	Jan 26	06:46:26	56450	5539	-54322	-24	P	t-	-0.7127	1.5965	0.5050	337.0	163.1	-	22N	138E
-2392	Jul 21	04:08:10	56437	5537	-54316	-19	P	a-	0.6924	1.5639	0.6107	285.5	156.3	-	23S	172E
-2391	Jan 14	06:46:17	56424	5534	-54310	-14	T+	pp	0.0006	2.8958	1.8185	369.5	232.1	104.5	24N	136E
-2391	Jul 10	19:04:36	56411	5532	-54304	-9	T-	pp	-0.0322	2.7928	1.8048	335.0	218.9	101.3	24S	53W
-2390	Jan 03	12:20:55	56398	5529	-54298	-4	P	a-	0.7055	1.5769	0.5504	308.3	158.1	-	25N	51E
-2390	Jun 30	04:05:01	56385	5527	-54292	1	P	t-	-0.8237	1.3671	0.3267	306.0	130.7	-	24S	171E
-2390	Nov 24	14:02:48	56374	5525	-54287	-32	N	a-	-1.3290	0.4056	-0.5670	164.8	-	-	15N	23E
-2390	Dec 24	00:45:29	56372	5525	-54286	6	N	a-	1.3463	0.3776	-0.6024	161.5	-	-	24N	136W
-2389	May 20	15:25:29	56361	5523	-54281	-27	N	t-	1.2386	0.6184	-0.4473	231.0	-	-	13S	2E
-2389	Nov 14	05:28:44	56348	5520	-54275	-22	P	a-	-0.6917	1.5824	0.5952	291.9	156.1	-	12N	151E
-2388	May 08	18:33:14	56335	5518	-54269	-17	T	t-	0.4415	2.0621	1.0338	341.7	205.4	29.3	10S	45W
-2388	Nov 02	17:12:16	56322	5515	-54263	-12	T-	pp	-0.0180	2.8442	1.8059	347.9	222.3	101.3	9N	25W
-2387	Apr 28	04:44:21	56309	5513	-54257	-7	T	a-	-0.3484	2.2057	1.2313	323.4	205.1	68.9	7S	163E
-2387	Oct 22	21:50:17	56296	5510	-54251	-2	P	t-	0.6972	1.6247	0.5336	334.1	164.6	-	5N	94W
-2386	Mar 19	13:42:35	56285	5508	-54246	-35	N	a-	1.4242	0.2175	-0.7283	122.2	-	-	10N	33E
-2386	Apr 17	20:32:59	56283	5508	-54245	3	N	a-	-1.0715	0.8628	-0.0793	228.6	-	-	3S	74W
-2386	Oct 11	21:08:28	56270	5506	-54239	8	N	t-	1.3785	0.3812	-0.7229	187.4	-	-	1N	84W
-2385	Mar 09	05:32:27	56259	5504	-54234	-25	P	a-	0.7388	1.4915	0.5129	291.0	149.4	-	13N	156E
-2385	Sep 01	07:45:42	56246	5501	-54228	-20	P	a-	-0.8658	1.2831	0.2559	289.2	113.3	-	17S	119E
-2384	Feb 26	15:54:04	56233	5499	-54222	-15	T-	pp	-0.0011	2.8744	1.8379	355.5	227.4	103.8	16N	1E
-2384	Aug 20	20:01:20	56220	5496	-54216	-10	T-	pp	-0.1182	2.6278	1.6543	324.0	212.3	96.4	19S	65W
-2383	Feb 14	18:54:51	56207	5494	-54210	-5	P	t-	-0.7597	1.5049	0.4237	328.8	150.9	-	18N	45W
-2383	Aug 10	12:12:35	56194	5491	-54204	0	P	a-	0.5810	1.7696	0.8139	295.2	173.9	-	21S	51E
-2382	Jan 05	02:28:59	56183	5489	-54199	-33	N	t-	1.4599	0.2130	-0.8536	137.0	-	-	25N	161W
-2382	Feb 03	18:49:26	56181	5489	-54198	5	N	t-	-1.4636	0.2124	-0.8667	140.1	-	-	20N	44W
-2382	Jul 01	17:45:36	56170	5487	-54193	-28	N	a-	-1.3262	0.4252	-0.5760	179.3	-	-	25S	35W
-2382	Jul 31	03:40:54	56168	5487	-54192	10	N	a-	1.3170	0.4325	-0.5497	175.2	-	-	22S	178E
-2382	Dec 25	10:04:18	56157	5484	-54187	-23	P	a-	0.6985	1.5826	0.5703	302.6	157.9	-	24N	84E
-2381	Jun 21	00:48:06	56144	5482	-54181	-18	P	t-	-0.6111	1.7627	0.7111	336.8	183.7	-	23S	141W
-2381	Dec 14	23:47:23	56131	5480	-54175	-13	T-	pp	-0.0061	2.8335	1.8596	321.4	211.4	98.4	21N	123W
-2380	Jun 09	01:59:17	56118	5477	-54169	-8	T+	pp	0.1470	2.6235	1.5535	373.3	233.7	100.8	20S	159W
-2380	Dec 03	15:30:02	56105	5475	-54163	-3	P	a-	-0.6734	1.6115	0.6333	290.7	158.9	-	18N	0E
-2379	May 29	03:58:38	56093	5472	-54157	2	P	t-	0.9011	1.2248	0.1846	295.8	100.8	-	16S	171E
-2379	Oct 24	13:53:33	56082	5470	-54152	-31	N	a-	1.4676	0.1929	-0.8621	127.8	-	-	6N	24E
-2379	Nov 23	04:31:29	56080	5470	-54151	7	N	a-	-1.3932	0.3137	-0.7101	155.4	-	-	15N	164E

-2378	Apr 19	04:20:58	56069	5468	-54146	-26	P	-a	-0.9685	1.0619	0.0997	254.6	69.4	-	4S	169E
-2378	Oct 13	16:33:47	56056	5466	-54140	-21	P	-t	0.8338	1.3783	0.2788	320.2	124.9	-	1N	16W
-2377	Apr 08	20:56:39	56043	5463	-54134	-16	T-	-p	-0.2151	2.4336	1.4923	314.0	206.9	89.1	1N	79W
-2377	Oct 02	15:37:14	56030	5461	-54128	-11	T+	pp	0.1551	2.6219	1.5258	373.8	231.1	98.1	4S	1W
-2376	Mar 28	13:33:14	56017	5458	-54122	-6	P	a-	0.5285	1.8702	0.9060	306.6	184.4	-	6N	33E
-2376	Sep 20	18:44:22	56004	5456	-54116	-1	P	a-	-0.5433	1.8846	0.8381	332.0	189.1	-	9S	47W
-2375	Feb 16	12:38:21	55993	5454	-54111	-34	N	-t	-1.4438	0.2364	-0.8181	143.8	-	-	17N	49E
-2375	Mar 18	01:36:03	55991	5453	-54110	4	N	t-	1.3319	0.4235	-0.5949	182.7	-	-	10N	146W
-2375	Aug 11	19:27:14	55980	5451	-54105	-29	N	-a	1.4320	0.2113	-0.7507	121.6	-	-	20S	58W
-2375	Sep 10	05:17:53	55978	5451	-54104	9	N	a-	-1.2034	0.6443	-0.3444	208.6	-	-	14S	155E
-2374	Feb 05	13:59:43	55967	5449	-54099	-24	P	-t	-0.7542	1.5187	0.4305	331.6	152.5	-	20N	28E
-2374	Aug 01	12:00:24	55954	5447	-54093	-19	P	-a	0.7413	1.4762	0.5189	280.9	146.3	-	22S	53E
-2373	Jan 25	14:19:34	55941	5444	-54087	-14	T-	pp	-0.0302	2.8386	1.7672	367.8	231.6	104.3	23N	22E
-2373	Jul 22	02:32:38	55928	5442	-54081	-9	T+	pp	0.0246	2.8099	1.8157	336.8	219.5	101.4	24S	166W
-2372	Jan 14	20:27:48	55915	5439	-54075	-4	P	a-	0.6837	1.6137	0.5935	309.0	162.6	-	25N	71W
-2372	Jul 10	10:57:38	55902	5437	-54069	1	P	t-	-0.7578	1.4909	0.4445	316.5	150.2	-	25S	67E
-2372	Dec 04	22:54:24	55892	5435	-54064	-32	N	-a	-1.3294	0.4042	-0.5668	164.4	-	-	18N	111W
-2371	Jan 03	09:18:59	55890	5434	-54063	6	N	a-	1.3323	0.4012	-0.5746	165.7	-	-	25N	95E
-2371	May 30	21:42:58	55879	5432	-54058	-27	N	-t	1.3236	0.4624	-0.6029	202.5	-	-	16S	95W
-2371	Jun 29	12:49:51	55877	5432	-54057	11	Nb	t-	-1.5294	0.0891	-0.9848	92.4	-	-	25S	38E
-2371	Nov 24	14:17:48	55866	5430	-54052	-22	P	-a	-0.6923	1.5820	0.5933	292.5	156.2	-	16N	17E
-2370	May 20	01:12:54	55853	5428	-54046	-17	P	-t	0.5232	1.9106	0.8857	334.2	194.7	-	14S	148W
-2370	Nov 14	01:43:44	55840	5425	-54040	-12	T-	pp	-0.0167	2.8482	1.8067	349.3	222.9	101.5	13N	155W
-2369	May 09	11:51:43	55827	5423	-54034	-7	T-	p-	-0.2695	2.3487	1.3780	325.5	209.9	83.5	11S	53E
-2369	Nov 03	05:57:01	55814	5420	-54028	-2	P	t-	0.6957	1.6288	0.5349	335.2	165.1	-	9N	141E
-2368	Mar 29	21:17:59	55803	5418	-54023	-35	Ne	-a	1.4871	0.1013	-0.8431	84.3	-	-	6N	83W
-2368	Apr 28	03:56:52	55801	5418	-54022	3	P	a-	-0.9984	0.9961	0.0556	241.9	51.1	-	8S	172E
-2368	Oct 22	05:05:04	55788	5416	-54016	8	N	t-	1.3709	0.3956	-0.7092	190.6	-	-	5N	155E
-2367	Mar 19	13:01:47	55777	5414	-54011	-25	P	-a	0.8014	1.3770	0.3979	284.3	134.4	-	9N	41E
-2367	Sep 11	15:49:37	55765	5411	-54005	-20	P	-a	-0.8850	1.2478	0.2208	285.4	105.4	-	13S	4W
-2366	Mar 08	23:04:53	55752	5409	-53999	-15	T+	pp	0.0577	2.7707	1.7339	356.4	227.7	103.3	12N	109W
-2366	Sep 01	04:15:30	55739	5406	-53993	-10	T-	-p	-0.1464	2.5765	1.6019	323.0	211.1	94.4	16S	169E
-2365	Feb 26	01:51:21	55726	5404	-53987	-5	P	t-	-0.7044	1.6053	0.5266	335.7	165.7	-	15N	151W
-2365	Aug 21	20:22:44	55713	5402	-53981	0	P	a-	0.5464	1.8350	0.8756	298.5	178.6	-	18S	73W
-2364	Jan 16	10:15:24	55702	5400	-53976	-33	N	-t	1.4795	0.1738	-0.8867	123.6	-	-	25N	81E
-2364	Feb 15	01:58:24	55700	5399	-53975	5	N	t-	-1.4147	0.2994	-0.7742	164.5	-	-	18N	153W
-2364	Jul 12	01:00:41	55689	5397	-53970	-28	N	-a	-1.3912	0.3091	-0.6983	155.3	-	-	25S	145W
-2364	Aug 10	11:30:15	55687	5397	-53969	10	N	a-	1.2794	0.5045	-0.4838	188.8	-	-	20S	60E
-2363	Jan 04	18:24:09	55676	5395	-53964	-23	P	-a	0.7104	1.5578	0.5512	299.8	155.3	-	25N	42W
-2363	Jul 01	07:28:12	55663	5392	-53958	-18	P	-t	-0.6866	1.6268	0.5700	330.3	168.7	-	24S	118E

-2363	Dec 25	08:28:21	55650	5390	-53952	-13	T+	pp	0.0020	2.8395	1.8688	320.8	211.2	98.4	23N	105E
-2362	Jun 20	08:21:49	55637	5387	-53946	-8	T+	pp	0.0641	2.7765	1.7049	374.7	235.6	105.5	22S	104E
-2362	Dec 15	00:16:22	55624	5385	-53940	-3	P	a-	-0.6717	1.6144	0.6364	291.3	159.5	-	21N	133W
-2361	Jun 09	10:34:13	55612	5383	-53934	2	P	t-	0.8171	1.3780	0.3397	307.3	133.3	-	19S	70E
-2361	Nov 04	22:17:29	55601	5381	-53929	-31	N	a-	1.4702	0.1901	-0.8686	127.4	-	-	11N	105W
-2361	Dec 04	13:06:11	55599	5380	-53928	7	N	a-	-1.3981	0.3056	-0.7201	154.0	-	-	18N	34E
-2360	Apr 29	11:35:10	55588	5378	-53923	-26	N	a-	-1.0394	0.9300	-0.0287	240.8	-	-	8S	57E
-2360	May 28	19:38:36	55586	5378	-53922	12	Nb	a-	1.5215	0.0576	-0.9250	67.1	-	-	15S	65W
-2360	Oct 24	00:33:37	55575	5376	-53917	-21	P	t-	0.8388	1.3704	0.2682	320.2	122.8	-	6N	138W
-2359	Apr 19	04:23:39	55562	5373	-53911	-16	T	p-	-0.2861	2.3028	1.3628	311.5	203.3	80.2	3S	166E
-2359	Oct 12	23:33:51	55549	5371	-53905	-11	T+	pp	0.1631	2.6075	1.5109	373.2	230.4	97.2	0N	123W
-2358	Apr 08	20:55:50	55536	5369	-53899	-6	T	a-	0.4620	1.9927	1.0276	312.3	192.7	25.1	1N	81W
-2358	Oct 02	02:56:07	55523	5366	-53893	-1	P	a-	-0.5306	1.9075	0.8616	331.9	190.4	-	5S	172W
-2357	Feb 27	19:49:16	55513	5364	-53888	-34	N	t-	-1.4991	0.1348	-0.9193	109.9	-	-	14N	61W
-2357	Mar 29	08:39:08	55510	5364	-53887	4	N	t-	1.2703	0.5370	-0.4825	204.3	-	-	6N	105E
-2357	Aug 23	03:36:46	55500	5362	-53882	-29	N	a-	1.4622	0.1568	-0.8069	105.1	-	-	17S	178E
-2357	Sep 21	13:44:11	55498	5361	-53881	9	N	a-	-1.1853	0.6775	-0.3114	212.7	-	-	10S	26E
-2356	Feb 16	21:02:49	55487	5359	-53876	-24	P	t-	-0.8034	1.4266	0.3418	324.6	137.8	-	18N	80W
-2356	Aug 11	20:01:07	55474	5357	-53870	-19	P	a-	0.7828	1.4025	0.4407	276.9	136.6	-	20S	69W
-2355	Feb 04	21:44:37	55461	5355	-53864	-14	T-	pp	-0.0681	2.7659	1.7006	365.9	230.8	103.4	21N	90W
-2355	Aug 01	10:07:43	55448	5352	-53858	-9	T+	pp	0.0746	2.7214	1.7209	338.2	219.4	100.3	23S	79E
-2354	Jan 25	04:27:29	55435	5350	-53852	-4	P	a-	0.6552	1.6627	0.6489	310.3	168.0	-	24N	168E
-2354	Jul 21	17:57:10	55422	5347	-53846	1	P	t-	-0.6985	1.6029	0.5504	325.3	164.8	-	24S	39W
-2354	Dec 16	07:41:21	55412	5345	-53841	-32	N	a-	-1.3338	0.3951	-0.5740	162.5	-	-	20N	116E
-2353	Jan 14	17:44:41	55409	5345	-53840	6	N	a-	1.3117	0.4367	-0.5346	171.8	-	-	25N	33W
-2353	Jun 11	04:03:53	55399	5343	-53835	-27	N	t-	1.4055	0.3121	-0.7533	168.5	-	-	19S	167E
-2353	Jul 10	19:24:11	55397	5343	-53834	11	N	t-	-1.4589	0.2201	-0.8571	143.7	-	-	25S	62W
-2353	Dec 05	23:03:32	55386	5341	-53829	-22	P	a-	-0.6953	1.5769	0.5874	292.9	155.9	-	19N	116W
-2352	May 30	07:55:55	55373	5338	-53823	-17	P	t-	0.6029	1.7630	0.7408	325.8	182.0	-	17S	109E
-2352	Nov 24	10:12:38	55360	5336	-53817	-12	T-	pp	-0.0167	2.8496	1.8055	350.6	223.5	101.7	16N	76E
-2351	May 19	19:01:01	55347	5333	-53811	-7	T-	p-	-0.1913	2.4908	1.5228	326.7	213.2	92.7	14S	57W
-2351	Nov 13	14:04:52	55334	5331	-53805	-2	P	t-	0.6959	1.6294	0.5335	336.0	165.2	-	13N	17E
-2350	May 09	11:18:24	55321	5329	-53799	3	P	a-	-0.9231	1.1337	0.1942	254.0	93.6	-	11S	59E
-2350	Nov 02	13:06:43	55309	5326	-53793	8	N	t-	1.3668	0.4030	-0.7017	192.1	-	-	10N	32E
-2349	Mar 30	20:22:17	55298	5324	-53788	-25	P	a-	0.8704	1.2509	0.2709	275.8	113.3	-	5N	72W
-2349	Sep 23	00:03:13	55285	5322	-53782	-20	P	a-	-0.8975	1.2246	0.1981	282.5	99.9	-	9S	130W
-2348	Mar 19	06:04:29	55272	5320	-53776	-15	T+	pp	0.1250	2.6475	1.6102	356.7	227.0	100.5	9N	143E
-2348	Sep 11	12:39:17	55259	5317	-53770	-10	T-	p-	-0.1674	2.5385	1.5629	322.0	209.9	92.6	12S	41E
-2347	Mar 08	08:39:05	55246	5315	-53764	-5	P	t-	-0.6416	1.7193	0.6428	342.8	179.8	-	12N	105E
-2347	Sep 01	04:40:11	55233	5312	-53758	0	P	a-	0.5179	1.8892	0.9261	301.2	182.1	-	15S	161E

-2346	Jan 26	17:56:16	55223	5310	-53753	-33	N	-t	1.5043	0.1251	-0.9289	104.9	-	-	24N	35W
-2346	Feb 25	09:01:27	55221	5310	-53752	5	N	t-	-1.3600	0.3969	-0.6710	187.0	-	-	15N	99E
-2346	Jul 23	08:20:39	55210	5308	-53747	-28	N	-a	-1.4514	0.2020	-0.8119	127.4	-	-	25S	104E
-2346	Aug 21	19:25:55	55208	5308	-53746	10	N	a-	1.2474	0.5664	-0.4280	199.7	-	-	18S	61W
-2345	Jan 16	02:38:25	55197	5306	-53741	-23	P	-a	0.7277	1.5232	0.5225	296.4	151.5	-	24N	166W
-2345	Jul 12	14:12:41	55184	5303	-53735	-18	P	-t	-0.7577	1.4990	0.4370	323.1	151.2	-	25S	15E
-2344	Jan 05	17:03:34	55171	5301	-53729	-13	T+	pp	0.0153	2.8134	1.8462	320.1	211.1	98.4	24N	24W
-2344	Jun 30	14:51:14	55158	5298	-53723	-8	T-	pp	-0.0135	2.8702	1.7968	375.0	235.9	106.4	23S	5E
-2344	Dec 25	08:55:48	55145	5296	-53717	-3	P	a-	-0.6646	1.6272	0.6496	292.4	161.0	-	22N	96E
-2343	Jun 19	17:18:15	55133	5294	-53711	2	P	t-	0.7386	1.5214	0.4845	316.4	155.2	-	21S	33W
-2343	Nov 15	06:40:22	55122	5292	-53706	-31	N	-a	1.4732	0.1861	-0.8757	126.6	-	-	15N	127E
-2343	Dec 14	21:35:11	55120	5291	-53705	7	N	a-	-1.3990	0.3048	-0.7224	154.3	-	-	20N	94W
-2342	May 10	18:49:59	55109	5289	-53700	-26	N	-a	-1.1104	0.7983	-0.1576	225.5	-	-	12S	55W
-2342	Jun 09	02:46:28	55107	5289	-53699	12	N	a-	1.4445	0.1977	-0.7827	122.3	-	-	18S	175W
-2342	Nov 04	08:35:27	55096	5287	-53694	-21	P	-t	0.8420	1.3655	0.2614	320.3	121.5	-	10N	99E
-2341	Apr 30	11:47:28	55083	5284	-53688	-16	T	-p	-0.3600	2.1669	1.2275	308.3	198.3	66.5	8S	52E
-2341	Oct 24	07:35:46	55071	5282	-53682	-11	T+	pp	0.1670	2.6001	1.5038	372.4	229.9	96.6	5N	114E
-2340	Apr 19	04:11:33	55058	5280	-53676	-6	T	p-	0.3903	2.1249	1.1583	317.7	200.2	58.0	3S	167E
-2340	Oct 12	11:16:13	55045	5277	-53670	-1	P	a-	-0.5239	1.9191	0.8745	331.3	190.8	-	0S	60E
-2339	Mar 10	02:48:56	55034	5275	-53665	-34	Ne	-t	-1.5620	0.0191	-1.0347	41.9	-	-	10N	169W
-2339	Apr 08	15:34:09	55032	5275	-53664	4	N	t-	1.2030	0.6613	-0.3599	224.8	-	-	2N	2W
-2339	Sep 02	11:55:34	55021	5273	-53659	-29	N	-a	1.4855	0.1150	-0.8505	90.3	-	-	14S	51E
-2339	Oct 01	22:18:26	55019	5273	-53658	9	N	a-	-1.1731	0.6999	-0.2890	215.2	-	-	5S	105W
-2338	Feb 27	03:56:32	55008	5271	-53653	-24	P	-t	-0.8600	1.3210	0.2396	315.8	117.1	-	15N	175E
-2338	Aug 23	04:09:44	54996	5268	-53647	-19	P	-a	0.8174	1.3413	0.3749	273.4	127.4	-	18S	167E
-2337	Feb 16	05:00:58	54983	5266	-53641	-14	T-	pp	-0.1142	2.6781	1.6192	363.6	229.4	101.2	19N	159E
-2337	Aug 12	17:49:44	54970	5263	-53635	-9	T+	-p	0.1180	2.6450	1.6378	339.4	219.0	98.3	21S	38W
-2336	Feb 05	12:19:57	54957	5261	-53629	-4	P	a-	0.6197	1.7245	0.7173	312.1	174.1	-	22N	49E
-2336	Aug 01	01:03:42	54944	5259	-53623	1	P	t-	-0.6451	1.7039	0.6452	332.8	176.1	-	23S	147W
-2336	Dec 26	16:23:23	54934	5257	-53618	-32	N	-a	-1.3426	0.3777	-0.5890	159.1	-	-	22N	16W
-2335	Jan 25	02:03:25	54931	5256	-53617	6	N	a-	1.2852	0.4832	-0.4836	179.5	-	-	24N	158W
-2335	Jun 21	10:31:03	54921	5254	-53612	-27	N	-t	1.4825	0.1710	-0.8948	126.1	-	-	21S	69E
-2335	Jul 21	02:06:47	54919	5254	-53611	11	N	t-	-1.3943	0.3402	-0.7403	176.9	-	-	25S	164W
-2335	Dec 16	07:46:06	54908	5252	-53606	-22	P	-a	-0.7006	1.5675	0.5774	293.1	155.1	-	21N	112E
-2334	Jun 10	14:43:19	54895	5250	-53600	-17	P	-t	0.6800	1.6204	0.6005	316.6	167.1	-	19S	5E
-2334	Dec 05	18:39:06	54882	5247	-53594	-12	T-	pp	-0.0180	2.8482	1.8021	351.9	224.1	101.9	19N	52W
-2333	May 31	02:12:50	54869	5245	-53588	-7	T-	pp	-0.1144	2.6307	1.6650	327.1	215.1	98.1	18S	167W
-2333	Nov 24	22:10:27	54857	5242	-53582	-2	P	t-	0.6944	1.6329	0.5358	336.9	165.7	-	17N	106W
-2332	May 19	18:40:48	54844	5240	-53576	3	P	a-	-0.8481	1.2711	0.3319	264.7	119.9	-	15S	54W
-2332	Nov 12	21:09:11	54831	5238	-53570	8	N	t-	1.3629	0.4096	-0.6942	193.3	-	-	14N	91W

-2331	Apr 10	03:37:25	54820	5236	-53565	-25	P	-a	0.9432	1.1180	0.1365	265.6	82.3	-	1N	176E
-2331	Oct 03	08:23:51	54808	5233	-53559	-20	P	-a	-0.9054	1.2097	0.1841	280.3	96.2	-	4S	103E
-2330	Mar 30	12:56:42	54795	5231	-53553	-15	T+	pp	0.1975	2.5148	1.4767	356.3	225.0	94.4	5N	37E
-2330	Sep 22	21:10:53	54782	5229	-53547	-10	T-	-p	-0.1826	2.5111	1.5347	321.1	209.0	91.2	8S	89W
-2329	Mar 19	15:16:17	54769	5226	-53541	-5	P	t-	-0.5703	1.8490	0.7747	349.8	193.1	-	8N	3E
-2329	Sep 12	13:06:21	54756	5224	-53535	0	P	a-	0.4967	1.9298	0.9630	303.3	184.6	-	11S	32E
-2328	Feb 07	01:27:29	54745	5222	-53530	-33	Ne	-t	1.5375	0.0609	-0.9865	73.3	-	-	22N	149W
-2328	Mar 07	15:54:49	54743	5221	-53529	5	N	t-	-1.2965	0.5106	-0.5517	209.1	-	-	12N	7W
-2328	Aug 02	15:48:32	54733	5219	-53524	-28	N	-a	-1.5041	0.1087	-0.9120	94.7	-	-	24S	9W
-2328	Sep 01	03:30:30	54730	5219	-53523	10	N	a-	1.2232	0.6139	-0.3867	207.8	-	-	14S	176E
-2327	Jan 26	10:43:57	54720	5217	-53518	-23	P	-a	0.7530	1.4735	0.4790	292.0	145.6	-	23N	71E
-2327	Jul 22	21:05:13	54707	5215	-53512	-18	P	-t	-0.8215	1.3848	0.3173	315.8	131.5	-	24S	89W
-2326	Jan 16	01:31:59	54694	5212	-53506	-13	T+	pp	0.0346	2.7761	1.8124	319.5	211.0	98.3	24N	152W
-2326	Jul 11	21:26:56	54682	5210	-53500	-8	T-	pp	-0.0864	2.7375	1.6621	374.4	234.8	104.2	24S	95W
-2325	Jan 05	17:29:42	54669	5208	-53494	-3	P	a-	-0.6534	1.6474	0.6706	294.0	163.4	-	23N	33W
-2325	Jul 01	00:08:18	54656	5205	-53488	2	P	t-	0.6634	1.6588	0.6229	323.9	171.5	-	23S	137W
-2325	Nov 26	15:02:00	54645	5203	-53483	-31	N	-a	1.4763	0.1816	-0.8825	125.5	-	-	18N	0E
-2325	Dec 26	05:58:01	54643	5203	-53482	7	N	a-	-1.3958	0.3111	-0.7170	156.3	-	-	22N	139E
-2324	May 21	02:05:13	54632	5201	-53477	-26	N	-a	-1.1817	0.6665	-0.2872	208.2	-	-	16S	166W
-2324	Jun 19	09:59:35	54630	5201	-53476	12	N	a-	1.3705	0.3326	-0.6462	156.1	-	-	21S	75E
-2324	Nov 14	16:38:52	54620	5199	-53471	-21	P	-t	0.8437	1.3629	0.2578	320.5	120.9	-	14N	24W
-2323	May 10	19:10:27	54607	5196	-53465	-16	T	-a	-0.4344	2.0305	1.0909	304.3	192.0	43.9	12S	62W
-2323	Nov 03	15:41:17	54594	5194	-53459	-11	T+	pp	0.1686	2.5966	1.5013	371.6	229.4	96.4	9N	9W
-2322	Apr 30	11:24:32	54581	5191	-53453	-6	T	p-	0.3171	2.2604	1.2917	322.5	206.4	75.5	7S	56E
-2322	Oct 23	19:41:55	54568	5189	-53447	-1	P	a-	-0.5211	1.9235	0.8807	330.3	190.7	-	4N	69W
-2321	Apr 19	22:22:16	54556	5187	-53441	4	N	t-	1.1309	0.7947	-0.2286	244.2	-	-	2S	107W
-2321	Sep 13	20:22:35	54545	5185	-53436	-29	N	-a	1.5027	0.0842	-0.8831	77.4	-	-	10S	78W
-2321	Oct 13	06:59:01	54543	5184	-53435	9	N	a-	-1.1658	0.7131	-0.2753	216.4	-	-	1S	122E
-2320	Mar 09	10:41:22	54532	5182	-53430	-24	P	-t	-0.9237	1.2025	0.1246	304.9	85.9	-	11N	71E
-2320	Sep 02	12:26:29	54519	5180	-53424	-19	P	-a	0.8451	1.2928	0.3218	270.6	119.1	-	14S	41E
-2319	Feb 26	12:09:54	54507	5178	-53418	-14	T-	pp	-0.1672	2.5777	1.5251	360.8	227.2	97.3	15N	50E
-2319	Aug 23	01:40:01	54494	5175	-53412	-9	T+	-p	0.1538	2.5827	1.5689	340.5	218.5	95.9	18S	157W
-2318	Feb 15	20:04:56	54481	5173	-53406	-4	P	a-	0.5772	1.7992	0.7986	314.2	180.6	-	19N	69W
-2318	Aug 12	08:17:21	54468	5171	-53400	1	P	t-	-0.5984	1.7928	0.7278	339.0	184.9	-	21S	103E
-2317	Jan 07	00:58:46	54458	5169	-53395	-32	N	-a	-1.3569	0.3502	-0.6140	153.5	-	-	23N	146W
-2317	Feb 05	10:13:56	54455	5168	-53394	6	N	a-	1.2519	0.5419	-0.4203	188.6	-	-	22N	78E
-2317	Jul 02	17:05:01	54445	5166	-53389	-27	Ne	-t	1.5538	0.0406	-1.0260	62.1	-	-	22S	31W
-2317	Aug 01	08:58:39	54443	5166	-53388	11	N	t-	-1.3369	0.4473	-0.6365	201.0	-	-	24S	92E
-2317	Dec 27	16:20:54	54432	5164	-53383	-22	P	-a	-0.7117	1.5471	0.5569	292.6	153.2	-	23N	17W
-2316	Jun 20	21:37:29	54419	5162	-53377	-17	P	-t	0.7523	1.4869	0.4686	306.9	150.2	-	21S	100W

-2316	Dec 16	02:59:32	54406	5159	-53371	-12	T-	pp	-0.0231	2.8395	1.7921	353.1	224.7	102.1	22N	178W
-2315	Jun 10	09:28:49	54394	5157	-53365	-7	T-	pp	-0.0402	2.7661	1.8020	326.8	215.7	100.4	20S	81E
-2315	Dec 05	06:13:06	54381	5154	-53359	-2	P	t-	0.6910	1.6393	0.5418	337.9	166.8	-	20N	132E
-2314	May 31	02:03:56	54368	5152	-53353	3	P	a-	-0.7739	1.4077	0.4679	274.1	139.5	-	18S	168W
-2314	Nov 24	05:12:57	54355	5150	-53347	8	N	t-	1.3595	0.4151	-0.6870	194.2	-	-	17N	146E
-2313	Apr 21	10:44:32	54345	5148	-53342	-25	N	-a	1.0216	0.9753	-0.0083	252.9	-	-	3S	66E
-2313	May 20	18:50:41	54343	5147	-53341	13	Nb	a-	-1.5256	0.0381	-0.9210	53.2	-	-	16S	59W
-2313	Oct 14	16:52:44	54332	5145	-53336	-20	P	-a	-0.9074	1.2053	0.1809	279.0	95.1	-	0N	27W
-2312	Apr 09	19:40:30	54319	5143	-53330	-15	T	-t	0.2759	2.3715	1.3321	354.8	221.3	83.7	0N	67W
-2312	Oct 03	05:49:49	54306	5141	-53324	-10	T-	-p	-0.1919	2.4942	1.5172	320.4	208.2	90.2	4S	139E
-2311	Mar 29	21:47:23	54294	5138	-53318	-5	P	t-	-0.4941	1.9879	0.9156	356.2	204.8	-	4N	98W
-2311	Sep 22	21:39:39	54281	5136	-53312	0	P	a-	0.4820	1.9587	0.9883	304.9	186.3	-	7S	99W
-2310	Mar 18	22:43:21	54268	5134	-53306	5	N	t-	-1.2280	0.6335	-0.4233	229.4	-	-	8N	111W
-2310	Aug 13	23:21:57	54258	5132	-53301	-28	Ne	-a	-1.5514	0.0254	-1.0021	46.3	-	-	22S	123W
-2310	Sep 12	11:41:03	54255	5131	-53300	10	N	a-	1.2045	0.6513	-0.3554	214.1	-	-	11S	51E
-2309	Feb 06	18:43:44	54245	5129	-53295	-23	P	-a	0.7840	1.4136	0.4252	286.8	138.0	-	22N	50W
-2309	Aug 03	04:04:46	54232	5127	-53289	-18	P	-t	-0.8789	1.2822	0.2091	308.5	108.7	-	23S	165E
-2308	Jan 27	09:52:03	54219	5125	-53283	-13	T+	pp	0.0613	2.7253	1.7653	318.8	210.7	97.9	23N	82E
-2308	Jul 22	04:12:41	54207	5122	-53277	-8	T-	pp	-0.1514	2.6193	1.5416	373.1	232.6	99.7	24S	162E
-2307	Jan 16	01:55:07	54194	5120	-53271	-3	P	a-	-0.6352	1.6803	0.7043	296.2	166.8	-	23N	160W
-2307	Jul 11	07:08:05	54181	5118	-53265	2	P	t-	0.5951	1.7838	0.7486	329.5	183.5	-	23S	117E
-2307	Dec 06	23:18:39	54171	5116	-53260	-31	N	-a	1.4829	0.1704	-0.8954	122.1	-	-	21N	125W
-2306	Jan 05	14:12:24	54168	5115	-53259	7	N	a-	-1.3865	0.3285	-0.7002	160.9	-	-	23N	14E
-2306	Jun 01	09:24:06	54158	5113	-53254	-26	N	-a	-1.2506	0.5393	-0.4130	189.1	-	-	19S	82E
-2306	Jun 30	17:20:16	54156	5113	-53253	12	N	a-	1.3014	0.4589	-0.5188	180.6	-	-	22S	37W
-2306	Nov 26	00:40:11	54145	5111	-53248	-21	P	-t	0.8468	1.3574	0.2521	320.3	119.7	-	18N	146W
-2305	May 22	02:32:09	54132	5109	-53242	-16	P	-a	-0.5097	1.8927	0.9523	299.6	184.1	-	15S	175W
-2305	Nov 14	23:49:09	54120	5106	-53236	-11	T+	pp	0.1689	2.5952	1.5018	370.7	229.1	96.3	13N	134W
-2304	May 10	18:33:49	54107	5104	-53230	-6	T+	p-	0.2414	2.4007	1.4292	326.8	211.6	87.4	11S	55W
-2304	Nov 03	04:11:29	54094	5102	-53224	-1	P	a-	-0.5205	1.9233	0.8829	329.1	190.3	-	9N	161E
-2303	Apr 30	05:05:20	54081	5099	-53218	4	N	t-	1.0552	0.9349	-0.0910	262.1	-	-	7S	149E
-2303	Sep 24	04:58:21	54071	5097	-53213	-29	N	-a	1.5137	0.0649	-0.9040	68.0	-	-	6S	151E
-2303	Oct 23	15:45:32	54069	5097	-53212	9	N	a-	-1.1627	0.7184	-0.2693	216.6	-	-	4N	12W
-2302	Mar 20	17:17:43	54058	5095	-53207	-24	Nx	-t	-0.9939	1.0719	-0.0026	291.6	-	-	7N	31W
-2302	Sep 13	20:50:42	54045	5093	-53201	-19	P	-a	0.8663	1.2561	0.2805	268.6	112.1	-	10S	87W
-2301	Mar 09	19:11:31	54033	5090	-53195	-14	T-	pp	-0.2271	2.4646	1.4183	357.3	223.9	90.7	12N	58W
-2301	Sep 03	09:37:45	54020	5088	-53189	-9	T+	-p	0.1823	2.5337	1.5134	341.6	217.9	93.4	15S	82E
-2300	Feb 27	03:42:15	54007	5086	-53183	-4	P	a-	0.5275	1.8871	0.8930	316.6	187.4	-	16N	175E
-2300	Aug 22	15:39:47	53994	5083	-53177	1	P	t-	-0.5595	1.8672	0.7961	344.2	191.6	-	19S	9W

23RD CENTURY BCE

In the 23rd century BCE the total number of lunar eclipses was 240 lunar eclipses:
87 penumbral lunar eclipses, 81 partial lunar eclipses, 72 total lunar eclipses
(43 central total lunar eclipses, 29 non-central total lunar eclipses).

	CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN		
	DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG		
	GREATEST		S											m	m	m	°	°
ECLIPSE																		
-2299 Jan 17	09:27:49	53984	5081	-53172	-32	N	-a	-1.3764	0.3131	-0.6484	145.6	-	-	22N	86E			
-2299 Feb 15	18:17:47	53982	5081	-53171	6	N	a-	1.2130	0.6110	-0.3468	198.5	-	-	20N	44W			
-2299 Aug 11	15:58:56	53969	5079	-53165	11	N	t-	-1.2857	0.5429	-0.5443	219.6	-	-	22S	14W			
-2298 Jan 07	00:49:51	53958	5077	-53160	-22	P	-a	-0.7272	1.5186	0.5285	291.6	150.3	-	23N	145W			
-2298 Jul 02	04:38:58	53946	5074	-53154	-17	P	-t	0.8193	1.3633	0.3464	297.0	131.1	-	23S	153E			
-2298 Dec 27	11:13:32	53933	5072	-53148	-12	T-	pp	-0.0330	2.8217	1.7735	354.2	225.3	102.2	23N	57E			
-2297 Jun 21	16:49:38	53920	5070	-53142	-7	T+	pp	0.0308	2.7828	1.8197	325.9	215.2	100.4	22S	30W			
-2297 Dec 16	14:10:16	53907	5067	-53136	-2	P	t-	0.6834	1.6531	0.5560	339.2	168.8	-	22N	12E			
-2296 Jun 10	09:30:48	53895	5065	-53130	3	P	a-	-0.7024	1.5394	0.5985	282.2	154.6	-	21S	79E			
-2296 Dec 04	13:12:47	53882	5063	-53124	8	N	t-	1.3524	0.4267	-0.6727	196.3	-	-	21N	25E			
-2295 May 01	17:49:13	53871	5061	-53119	-25	N	-a	1.1009	0.8311	-0.1551	238.0	-	-	7S	43W			
-2295 May 31	02:05:46	53869	5060	-53118	13	N	a-	-1.4578	0.1642	-0.7983	109.5	-	-	19S	170W			
-2295 Oct 25	01:26:25	53859	5058	-53113	-20	P	-a	-0.9063	1.2064	0.1838	278.1	95.5	-	5N	158W			
-2294 Apr 21	02:18:03	53846	5056	-53107	-15	T	-t	0.3586	2.2208	1.1796	352.1	215.6	65.1	4S	170W			
-2294 Oct 14	14:34:35	53833	5054	-53101	-10	T-	-p	-0.1970	2.4850	1.5077	319.8	207.7	89.5	1N	5E			
-2293 Apr 10	04:10:54	53821	5051	-53095	-5	T	t-	-0.4116	2.1384	1.0678	362.0	215.0	42.4	0S	163E			
-2293 Oct 04	06:19:50	53808	5049	-53089	0	T	a-	0.4729	1.9771	1.0034	306.2	187.3	8.7	3S	129E			
-2292 Mar 29	05:24:20	53795	5047	-53083	5	N	t-	-1.1520	0.7703	-0.2813	248.6	-	-	4N	145E			
-2292 Sep 22	20:00:05	53782	5044	-53077	10	N	a-	1.1932	0.6749	-0.3375	218.4	-	-	7S	76W			
-2291 Feb 17	02:35:08	53772	5042	-53072	-23	P	-a	0.8230	1.3391	0.3567	280.3	127.3	-	19N	169W			
-2291 Aug 13	11:12:29	53759	5040	-53066	-18	P	-t	-0.9291	1.1929	0.1143	301.5	81.6	-	21S	57E			

-2290	Feb 06	18:04:36	53747	5038	-53060	-13	T+	-p	0.0947	2.6623	1.7058	318.0	210.2	96.8	21N	42W
-2290	Aug 02	11:07:26	53734	5035	-53054	-8	T-	pp	-0.2097	2.5134	1.4335	371.4	229.7	93.4	23S	57E
-2289	Jan 27	10:11:56	53721	5033	-53048	-3	P	a-	-0.6106	1.7249	0.7500	299.0	171.2	-	22N	75E
-2289	Jul 22	14:16:32	53708	5031	-53042	2	P	h-	0.5327	1.8981	0.8633	333.9	192.5	-	23S	9E
-2289	Dec 18	07:30:46	53698	5029	-53037	-31	N	-h	1.4923	0.1536	-0.9132	116.4	-	-	24N	111E
-2288	Jan 16	22:18:12	53696	5028	-53036	7	N	h-	-1.3712	0.3567	-0.6722	167.8	-	-	22N	108W
-2288	Jun 11	16:46:14	53685	5026	-53031	-26	N	-a	-1.3173	0.4165	-0.5350	167.8	-	-	22S	31W
-2288	Jul 11	00:48:21	53683	5026	-53030	12	N	a-	1.2374	0.5760	-0.4012	199.4	-	-	23S	150W
-2288	Dec 06	08:38:41	53672	5024	-53025	-21	P	-t	0.8519	1.3477	0.2430	319.6	117.8	-	21N	93E
-2287	Jun 01	09:55:53	53660	5022	-53019	-16	P	-a	-0.5832	1.7587	0.8166	294.3	174.6	-	19S	72E
-2287	Nov 25	07:57:50	53647	5019	-53013	-11	T+	pp	0.1692	2.5932	1.5025	369.7	228.7	96.2	17N	102E
-2286	May 22	01:41:06	53634	5017	-53007	-6	T+	pp	0.1648	2.5428	1.5680	330.3	215.5	95.3	15S	164W
-2286	Nov 14	12:43:36	53622	5015	-53001	-1	P	a-	-0.5212	1.9205	0.8832	327.7	189.8	-	13N	31E
-2285	May 11	11:44:46	53609	5012	-52995	4	P	t-	0.9770	1.0799	0.0509	278.6	53.4	-	11S	46E
-2285	Oct 05	13:40:04	53599	5010	-52990	-29	N	-a	1.5203	0.0536	-0.9167	61.8	-	-	1S	18E
-2285	Nov 04	00:34:23	53596	5010	-52989	9	N	a-	-1.1614	0.7202	-0.2662	216.4	-	-	8N	147W
-2284	Mar 30	23:47:30	53586	5008	-52984	-24	N	-t	-1.0691	0.9323	-0.1392	275.6	-	-	3N	131W
-2284	Sep 24	05:22:01	53573	5006	-52978	-19	P	-a	0.8814	1.2306	0.2507	267.3	106.6	-	6S	143E
-2283	Mar 20	02:08:06	53560	5003	-52972	-14	T	pp	-0.2919	2.3428	1.3024	353.0	219.4	80.4	8N	165W
-2283	Sep 13	17:41:55	53548	5001	-52966	-9	T+	-p	0.2046	2.4960	1.4694	342.7	217.4	91.1	11S	42W
-2282	Mar 09	11:13:41	53535	4999	-52960	-4	P	a-	0.4719	1.9860	0.9980	319.0	193.8	-	12N	59E
-2282	Sep 02	23:10:21	53522	4996	-52954	1	P	t-	-0.5280	1.9280	0.8509	348.4	196.6	-	15S	123W
-2281	Jan 28	17:47:16	53512	4995	-52949	-32	N	-a	-1.4038	0.2614	-0.6973	133.7	-	-	21N	40W
-2281	Feb 27	02:12:02	53510	4994	-52948	6	N	a-	1.1662	0.6948	-0.2589	209.4	-	-	17N	165W
-2281	Aug 22	23:10:24	53497	4992	-52942	11	N	t-	-1.2430	0.6228	-0.4676	233.5	-	-	19S	124W
-2280	Jan 18	09:08:57	53487	4990	-52937	-22	P	-a	-0.7504	1.4761	0.4862	289.7	145.5	-	23N	89E
-2280	Jul 12	11:49:55	53474	4988	-52931	-17	P	-t	0.8796	1.2522	0.2361	287.1	109.6	-	23S	44E
-2279	Jan 06	19:18:10	53461	4985	-52925	-12	T-	pp	-0.0499	2.7910	1.7424	355.3	225.8	102.2	24N	65W
-2279	Jul 02	00:17:38	53449	4983	-52919	-7	T+	pp	0.0965	2.6621	1.6993	324.4	213.8	98.3	23S	144W
-2279	Dec 26	22:01:49	53436	4981	-52913	-2	P	t-	0.6715	1.6743	0.5783	340.8	171.7	-	24N	107W
-2278	Jun 21	16:59:47	53423	4978	-52907	3	P	a-	-0.6328	1.6680	0.7253	289.3	166.7	-	23S	35W
-2278	Dec 15	21:11:10	53411	4976	-52901	8	N	t-	1.3436	0.4411	-0.6549	198.8	-	-	23N	96W
-2277	May 13	00:49:10	53400	4974	-52896	-25	N	-a	1.1827	0.6826	-0.3069	219.9	-	-	11S	151W
-2277	Jun 11	09:20:31	53398	4974	-52895	13	N	a-	-1.3905	0.2897	-0.6768	144.3	-	-	22S	79E
-2277	Nov 05	10:04:26	53387	4972	-52890	-20	P	-a	-0.9027	1.2119	0.1917	277.6	97.2	-	9N	70E
-2276	May 01	08:50:33	53375	4969	-52884	-15	T	-t	0.4444	2.0643	1.0211	348.1	207.4	23.5	8S	89E
-2276	Oct 24	23:24:24	53362	4967	-52878	-10	T-	-p	-0.1981	2.4830	1.5057	319.4	207.4	89.3	5N	130W
-2275	Apr 20	10:31:27	53349	4965	-52872	-5	T	tp	-0.3264	2.2940	1.2248	366.8	223.2	73.3	4S	65E
-2275	Oct 14	15:04:22	53337	4962	-52866	0	T	p-	0.4677	1.9880	1.0113	307.2	188.0	15.8	2N	5W
-2274	Apr 09	12:03:21	53324	4960	-52860	5	N	t-	-1.0732	0.9124	-0.1344	265.6	-	-	0S	42E

-2274	Oct 04	04:24:04	53312	4958	-52854	10	N	a-	1.1866	0.6898	-0.3280	221.4	-	-	2S	155E
-2273	Feb 28	10:19:25	53301	4956	-52849	-23	P	-a	0.8685	1.2526	0.2761	272.7	113.1	-	16N	73E
-2273	Aug 24	18:29:08	53288	4954	-52843	-18	P	-t	-0.9714	1.1180	0.0340	295.1	45.1	-	19S	54W
-2272	Feb 18	02:08:42	53276	4951	-52837	-13	T+	-p	0.1353	2.5861	1.6330	316.9	209.3	94.9	18N	165W
-2272	Aug 12	18:13:12	53263	4949	-52831	-8	T-	pp	-0.2593	2.4237	1.3416	369.4	226.5	85.8	21S	51W
-2271	Feb 06	18:18:56	53250	4947	-52825	-3	P	a-	-0.5784	1.7837	0.8096	302.5	176.5	-	20N	48W
-2271	Aug 01	21:36:28	53238	4944	-52819	2	P	h-	0.4787	1.9972	0.9625	336.9	199.0	-	22S	102W
-2271	Dec 28	15:35:00	53227	4942	-52814	-31	N	-h	1.5073	0.1262	-0.9410	106.1	-	-	25N	11W
-2270	Jan 27	06:13:44	53225	4942	-52813	7	N	h-	-1.3484	0.3985	-0.6305	177.3	-	-	21N	132E
-2270	Jun 23	00:12:58	53215	4940	-52808	-26	N	-a	-1.3807	0.3000	-0.6514	143.7	-	-	24S	144W
-2270	Jul 22	08:24:38	53213	4940	-52807	12	N	a-	1.1792	0.6828	-0.2943	214.1	-	-	23S	95E
-2270	Dec 17	16:32:01	53202	4938	-52802	-21	P	-t	0.8611	1.3301	0.2269	318.2	114.1	-	23N	27W
-2269	Jun 12	17:21:13	53189	4935	-52796	-16	P	-a	-0.6553	1.6275	0.6832	288.3	163.4	-	21S	42W
-2269	Dec 06	16:03:28	53177	4933	-52790	-11	T+	pp	0.1727	2.5851	1.4980	368.4	228.2	95.9	20N	20W
-2268	Jun 01	08:48:11	53164	4931	-52784	-6	T+	pp	0.0889	2.6843	1.7053	333.2	218.1	99.9	18S	87E
-2268	Nov 24	21:16:15	53152	4929	-52778	-1	P	a-	-0.5213	1.9185	0.8849	326.3	189.4	-	16N	99W
-2267	May 21	18:21:50	53139	4926	-52772	4	P	t-	0.8976	1.2275	0.1948	293.5	102.7	-	14S	56W
-2267	Oct 15	22:27:32	53128	4924	-52767	-29	N	-a	1.5228	0.0495	-0.9218	59.5	-	-	3N	117W
-2267	Nov 14	09:25:21	53126	4924	-52766	9	N	a-	-1.1614	0.7192	-0.2655	215.8	-	-	12N	79E
-2266	Apr 11	06:11:38	53116	4922	-52761	-24	N	-t	-1.1487	0.7848	-0.2838	256.3	-	-	1S	129E
-2266	Oct 05	13:59:48	53103	4920	-52755	-19	P	-a	0.8907	1.2156	0.2316	266.9	102.9	-	2S	11E
-2265	Mar 31	08:57:53	53091	4917	-52749	-14	T	-p	-0.3630	2.2094	1.1747	347.8	213.3	63.8	4N	89E
-2265	Sep 25	01:53:42	53078	4915	-52743	-9	T+	-p	0.2196	2.4716	1.4388	344.0	217.2	89.3	7S	167W
-2264	Mar 19	18:39:04	53065	4913	-52737	-4	T	a-	0.4105	2.0957	1.1136	321.3	199.8	50.2	8N	55W
-2264	Sep 13	06:48:47	53053	4910	-52731	1	P	t-	-0.5035	1.9757	0.8931	351.8	200.2	-	12S	120E
-2263	Feb 08	01:59:28	53042	4909	-52726	-32	N	-a	-1.4372	0.1989	-0.7573	117.2	-	-	19N	164W
-2263	Mar 09	10:00:34	53040	4908	-52725	6	N	a-	1.1144	0.7879	-0.1620	220.5	-	-	13N	76E
-2263	Sep 02	06:31:24	53027	4906	-52719	11	N	t-	-1.2076	0.6894	-0.4039	244.1	-	-	16S	124E
-2262	Jan 28	17:20:36	53017	4904	-52714	-22	P	-a	-0.7790	1.4232	0.4338	287.0	138.9	-	22N	35W
-2262	Jul 23	19:09:00	53004	4902	-52708	-17	P	-h	0.9340	1.1520	0.1366	277.5	84.3	-	23S	67W
-2261	Jan 18	03:14:29	52992	4899	-52702	-12	T-	pp	-0.0725	2.7494	1.7008	356.2	226.2	101.8	24N	175E
-2261	Jul 13	07:52:47	52979	4897	-52696	-7	T+	pp	0.1566	2.5518	1.5890	322.6	211.7	94.5	24S	101E
-2260	Jan 07	05:43:48	52966	4895	-52690	-2	P	t-	0.6525	1.7084	0.6141	343.1	176.1	-	25N	137E
-2260	Jul 02	00:35:19	52954	4892	-52684	3	P	a-	-0.5688	1.7866	0.8415	295.2	176.2	-	24S	150W
-2260	Dec 26	05:03:01	52941	4890	-52678	8	N	t-	1.3296	0.4647	-0.6272	203.1	-	-	24N	145E
-2259	May 23	07:48:47	52931	4888	-52673	-25	N	-a	1.2636	0.5362	-0.4572	198.6	-	-	14S	101E
-2259	Jun 21	16:39:00	52929	4888	-52672	13	N	a-	-1.3268	0.4090	-0.5621	170.2	-	-	24S	32W
-2259	Nov 15	18:43:07	52918	4886	-52667	-20	P	-a	-0.8991	1.2171	0.1998	277.1	98.8	-	13N	62W
-2258	May 12	15:20:10	52906	4884	-52661	-15	P	-t	0.5313	1.9062	0.8603	342.8	196.6	-	12S	11W
-2258	Nov 05	08:16:50	52893	4881	-52655	-10	T-	-p	-0.1975	2.4838	1.5071	319.0	207.2	89.3	10N	95E

-2257	May 01	16:46:35	52880	4879	-52649	-5	T-	pp	-0.2366	2.4583	1.3901	370.5	229.5	90.8	8S	32W
-2257	Oct 25	23:53:35	52868	4877	-52643	0	T	p-	0.4668	1.9909	1.0117	307.9	188.2	16.1	6N	140W
-2256	Apr 19	18:38:01	52855	4874	-52637	5	P	t-	-0.9896	1.0635	0.0212	281.1	35.0	-	5S	59W
-2256	Oct 14	12:53:19	52843	4872	-52631	10	N	a-	1.1850	0.6953	-0.3275	223.1	-	-	2N	25E
-2255	Mar 10	17:56:36	52832	4870	-52626	-23	P	-a	0.9205	1.1543	0.1834	263.6	93.1	-	12N	44W
-2255	Sep 04	01:55:03	52820	4868	-52620	-18	Nx	-t	-1.0054	1.0581	-0.0310	289.7	-	-	15S	167W
-2254	Feb 28	10:04:43	52807	4866	-52614	-13	T+	-p	0.1828	2.4973	1.5474	315.6	207.9	91.6	15N	74E
-2254	Aug 24	01:28:29	52794	4863	-52608	-8	T	-p	-0.3015	2.3473	1.2631	367.3	223.2	77.4	18S	161W
-2253	Feb 18	02:17:08	52782	4861	-52602	-3	P	a-	-0.5394	1.8548	0.8815	306.3	182.4	-	18N	170W
-2253	Aug 13	05:06:31	52769	4859	-52596	2	T	a-	0.4318	2.0833	1.0485	339.0	203.8	34.5	20S	144E
-2252	Jan 08	23:30:49	52759	4857	-52591	-31	N	-h	1.5282	0.0878	-0.9793	89.0	-	-	25N	130W
-2252	Feb 07	13:58:46	52757	4856	-52590	7	N	h-	-1.3181	0.4542	-0.5749	188.9	-	-	19N	15E
-2252	Jul 03	07:45:51	52746	4854	-52585	-26	N	-a	-1.4397	0.1921	-0.7598	116.0	-	-	25S	101E
-2252	Aug 01	16:10:17	52744	4854	-52584	12	N	a-	1.1278	0.7773	-0.2001	225.7	-	-	21S	23W
-2252	Dec 28	00:19:55	52734	4852	-52579	-21	P	-t	0.8747	1.3040	0.2029	315.9	108.4	-	24N	144W
-2251	Jun 23	00:50:01	52721	4850	-52573	-16	P	-a	-0.7241	1.5027	0.5555	281.8	150.5	-	23S	155W
-2251	Dec 17	00:06:42	52708	4848	-52567	-11	T+	pp	0.1788	2.5718	1.4889	366.9	227.6	95.3	22N	142W
-2250	Jun 12	15:56:28	52696	4845	-52561	-6	T+	pp	0.0147	2.8228	1.8391	335.3	219.5	101.8	21S	22W
-2250	Dec 06	05:47:14	52683	4843	-52555	-1	P	a-	-0.5194	1.9197	0.8904	325.0	189.2	-	19N	132E
-2249	Jun 02	00:58:06	52671	4841	-52549	4	P	t-	0.8182	1.3752	0.3384	306.8	133.0	-	17S	158W
-2249	Oct 27	07:18:42	52660	4839	-52544	-29	N	-a	1.5226	0.0501	-0.9219	59.8	-	-	8N	108E
-2249	Nov 25	18:15:28	52658	4838	-52543	9	N	a-	-1.1606	0.7196	-0.2629	215.4	-	-	16N	56W
-2248	Apr 21	12:32:55	52648	4837	-52538	-24	N	-t	-1.2303	0.6340	-0.4322	233.4	-	-	6S	31E
-2248	Oct 15	22:41:24	52635	4834	-52532	-19	P	-a	0.8966	1.2067	0.2190	266.9	100.4	-	3N	122W
-2247	Apr 10	15:45:42	52623	4832	-52526	-14	T	-t	-0.4367	2.0716	1.0422	341.6	205.6	32.6	1S	16W
-2247	Oct 05	10:10:58	52610	4830	-52520	-9	T+	-p	0.2293	2.4566	1.4183	345.4	217.2	88.1	2S	66E
-2246	Mar 31	01:59:12	52597	4827	-52514	-4	T	a-	0.3437	2.2155	1.2388	323.4	205.0	69.7	4N	168W
-2246	Sep 24	14:34:48	52585	4825	-52508	1	P	t-	-0.4858	2.0109	0.9232	354.5	202.8	-	7S	1E
-2245	Feb 19	10:02:06	52574	4823	-52503	-32	N	-a	-1.4782	0.1223	-0.8314	92.6	-	-	16N	73E
-2245	Mar 20	17:41:10	52572	4823	-52502	6	N	a-	1.0559	0.8937	-0.0529	232.0	-	-	9N	42W
-2245	Sep 13	14:03:24	52560	4821	-52496	11	N	t-	-1.1805	0.7403	-0.3555	251.7	-	-	12S	9E
-2244	Feb 09	01:20:25	52549	4819	-52491	-22	P	-a	-0.8167	1.3540	0.3649	283.0	129.1	-	20N	156W
-2244	Aug 03	02:39:46	52537	4816	-52485	-17	P	-h	0.9797	1.0681	0.0529	268.7	52.9	-	21S	179E
-2243	Jan 28	11:00:11	52524	4814	-52479	-12	T-	pp	-0.1029	2.6937	1.6452	356.9	226.3	100.8	22N	58E
-2243	Jul 23	15:35:43	52512	4812	-52473	-7	T+	-p	0.2107	2.4529	1.4895	320.6	209.2	89.6	23S	16W
-2242	Jan 17	13:18:06	52499	4809	-52467	-2	P	t-	0.6275	1.7532	0.6610	345.8	181.5	-	24N	22E
-2242	Jul 13	08:15:40	52487	4807	-52461	3	P	a-	-0.5093	1.8973	0.9492	300.2	183.7	-	24S	93E
-2241	Jan 06	12:49:00	52474	4805	-52455	8	N	t-	1.3100	0.4983	-0.5888	209.1	-	-	25N	28E
-2241	Jun 03	14:46:12	52464	4803	-52450	-25	N	-a	1.3450	0.3891	-0.6088	172.3	-	-	17S	5W
-2241	Jul 02	23:59:57	52462	4803	-52449	13	N	a-	-1.2656	0.5239	-0.4523	191.3	-	-	25S	144W

-2241	Nov 27	03:23:02	52451	4801	-52444	-20	P	-a	-0.8954	1.2220	0.2082	276.4	100.5	-	16N	167E
-2240	May 22	21:48:08	52439	4798	-52438	-15	P	-t	0.6188	1.7472	0.6982	336.1	182.6	-	15S	111W
-2240	Nov 15	17:10:07	52426	4796	-52432	-10	T-	-p	-0.1965	2.4851	1.5094	318.6	207.1	89.3	14N	41W
-2239	May 11	23:02:06	52414	4794	-52426	-5	T-	pp	-0.1468	2.6227	1.5551	372.9	233.7	100.9	12S	129W
-2239	Nov 05	08:44:49	52401	4792	-52420	0	T	p-	0.4679	1.9900	1.0086	308.5	188.3	13.9	10N	85E
-2238	May 01	01:11:50	52388	4789	-52414	5	P	t-	-0.9040	1.2186	0.1803	294.7	99.5	-	9S	161W
-2238	Oct 25	21:25:27	52376	4787	-52408	10	N	a-	1.1863	0.6950	-0.3322	223.9	-	-	7N	105W
-2237	Mar 22	01:28:15	52365	4785	-52403	-23	P	-a	0.9778	1.0466	0.0809	253.0	62.6	-	8N	160W
-2237	Sep 15	09:29:08	52353	4783	-52397	-18	Nx	-t	-1.0327	1.0105	-0.0832	285.2	-	-	11S	77E
-2236	Mar 10	17:52:44	52340	4781	-52391	-13	T+	-p	0.2373	2.3960	1.4488	313.8	205.6	86.3	11N	46W
-2236	Sep 03	08:55:14	52328	4778	-52385	-8	T	-p	-0.3349	2.2868	1.2008	365.4	220.1	69.0	15S	85E
-2235	Feb 28	10:06:05	52315	4776	-52379	-3	P	a-	-0.4931	1.9394	0.9666	310.5	188.6	-	14N	71E
-2235	Aug 23	12:47:01	52303	4774	-52373	2	T	a-	0.3924	2.1556	1.1208	340.3	207.1	53.1	18S	27E
-2234	Jan 19	07:16:31	52292	4772	-52368	-31	Ne	-t	1.5566	0.0356	-1.0311	57.1	-	-	25N	112E
-2234	Feb 17	21:32:58	52290	4771	-52367	7	N	t-	-1.2797	0.5246	-0.5045	202.3	-	-	17N	101W
-2234	Jul 14	15:25:43	52280	4770	-52362	-26	N	-a	-1.4937	0.0935	-0.8594	81.5	-	-	25S	15W
-2234	Aug 13	00:05:28	52278	4769	-52361	12	N	a-	1.0833	0.8592	-0.1187	234.7	-	-	20S	143W
-2233	Jan 08	07:58:16	52267	4767	-52356	-21	P	-t	0.8958	1.2639	0.1657	312.3	98.5	-	25N	101E
-2233	Jul 04	08:23:09	52255	4765	-52350	-16	P	-a	-0.7890	1.3854	0.4348	274.9	135.8	-	24S	90E
-2233	Dec 28	08:03:48	52242	4763	-52344	-11	T+	pp	0.1907	2.5475	1.4695	365.2	226.7	94.1	24N	98E
-2232	Jun 22	23:07:21	52230	4760	-52338	-6	T-	pp	-0.0563	2.7490	1.7601	336.7	219.8	101.3	23S	132W
-2232	Dec 16	14:14:34	52217	4758	-52332	-1	P	a-	-0.5137	1.9277	0.9033	323.9	189.6	-	22N	4E
-2231	Jun 12	07:35:38	52205	4756	-52326	4	P	t-	0.7404	1.5204	0.4790	318.6	155.3	-	20S	101E
-2231	Nov 06	16:13:18	52194	4754	-52321	-29	N	-a	1.5203	0.0545	-0.9178	62.3	-	-	12N	28W
-2231	Dec 06	03:04:50	52192	4754	-52320	9	N	a-	-1.1590	0.7212	-0.2585	215.1	-	-	19N	170E
-2230	May 02	18:50:02	52182	4752	-52315	-24	N	-t	-1.3150	0.4775	-0.5865	205.3	-	-	10S	66W
-2230	Jun 01	09:33:37	52180	4751	-52314	14	Nb	t-	1.5220	0.1002	-0.9687	97.8	-	-	17S	71E
-2230	Oct 27	07:27:39	52169	4749	-52309	-19	P	-a	0.8983	1.2053	0.2143	267.6	99.6	-	7N	104E
-2229	Apr 21	22:29:50	52157	4747	-52303	-14	P	-t	-0.5143	1.9265	0.9022	334.3	195.6	-	5S	120W
-2229	Oct 16	18:33:15	52144	4745	-52297	-9	T+	-p	0.2340	2.4505	1.4072	346.8	217.4	87.4	2N	62W
-2228	Apr 10	09:15:48	52132	4743	-52291	-4	T	p-	0.2731	2.3426	1.3708	325.0	209.4	82.8	0S	80E
-2228	Oct 04	22:27:47	52119	4740	-52285	1	P	t-	-0.4741	2.0346	0.9424	356.5	204.5	-	3S	120W
-2227	Mar 01	17:58:11	52109	4739	-52280	-32	Ne	-a	-1.5244	0.0365	-0.9151	51.0	-	-	13N	48W
-2227	Mar 31	01:17:39	52107	4738	-52279	6	P	a-	0.9938	1.0061	0.0623	242.9	54.0	-	5N	159W
-2227	Sep 23	21:42:46	52094	4736	-52273	11	N	t-	-1.1590	0.7808	-0.3171	257.3	-	-	8S	108W
-2226	Feb 19	09:12:31	52084	4734	-52268	-22	P	-a	-0.8599	1.2746	0.2857	277.9	115.9	-	17N	84E
-2226	Aug 14	10:20:00	52071	4732	-52262	-17	N	-h	1.0183	0.9972	-0.0179	260.7	-	-	19S	62E
-2225	Feb 08	18:34:48	52059	4729	-52256	-12	T-	pp	-0.1414	2.6229	1.5746	357.2	225.9	98.6	20N	57W
-2225	Aug 03	23:27:36	52046	4727	-52250	-7	T+	-p	0.2578	2.3671	1.4027	318.5	206.4	83.8	22S	135W
-2224	Jan 28	20:41:21	52034	4725	-52244	-2	P	t-	0.5939	1.8135	0.7239	349.2	188.1	-	23N	89W

-2224	Jul 23	16:03:38	52021	4723	-52238	3	T	a-	-0.4562	1.9964	1.0449	304.3	189.5	31.2	24S	25W
-2223	Jan 16	20:26:17	52009	4720	-52232	8	N	t-	1.2829	0.5454	-0.5365	217.0	-	-	25N	87W
-2223	Jun 13	21:46:23	51999	4718	-52227	-25	N	a-	1.4228	0.2488	-0.7541	140.3	-	-	20S	112W
-2223	Jul 13	07:27:05	51996	4718	-52226	13	N	a-	-1.2101	0.6285	-0.3533	208.3	-	-	25S	103E
-2223	Dec 07	12:00:26	51986	4716	-52221	-20	P	-a	-0.8944	1.2218	0.2121	275.4	101.1	-	19N	36E
-2222	Jun 03	04:14:52	51974	4714	-52215	-15	P	-t	0.7061	1.5888	0.5363	327.9	164.8	-	18S	150E
-2222	Nov 27	02:02:54	51961	4712	-52209	-10	T-	-p	-0.1961	2.4851	1.5109	318.2	207.0	89.4	17N	176W
-2221	May 23	05:16:28	51949	4709	-52203	-5	T-	pp	-0.0563	2.7887	1.7213	374.1	235.8	105.9	15S	135E
-2221	Nov 16	17:36:22	51936	4707	-52197	0	T	p-	0.4699	1.9872	1.0043	309.0	188.3	9.8	14N	50W
-2220	May 11	07:45:33	51924	4705	-52191	5	P	t-	-0.8172	1.3761	0.3414	306.4	133.4	-	12S	98E
-2220	Nov 05	06:00:15	51911	4703	-52185	10	N	a-	1.1910	0.6882	-0.3427	223.8	-	-	11N	124E
-2219	Apr 01	08:54:43	51901	4701	-52180	-23	N	-a	1.0399	0.9303	-0.0308	240.6	-	-	4N	86E
-2219	Apr 30	17:05:04	51899	4700	-52179	15	Nb	a-	-1.5242	0.0516	-0.9290	63.5	-	-	9S	42W
-2219	Sep 25	17:10:49	51888	4699	-52174	-18	N	-t	-1.0532	0.9749	-0.1230	281.8	-	-	7S	41W
-2218	Mar 22	01:34:14	51876	4696	-52168	-13	T	-p	0.2972	2.2849	1.3401	311.5	202.4	78.2	8N	164W
-2218	Sep 14	16:31:51	51863	4694	-52162	-8	T	-p	-0.3608	2.2401	1.1525	363.6	217.4	61.1	11S	31W
-2217	Mar 11	17:45:14	51851	4692	-52156	-3	T	a-	-0.4395	2.0378	1.0652	314.9	195.0	38.2	11N	46W
-2217	Sep 03	20:38:31	51838	4689	-52150	2	T	a-	0.3611	2.2129	1.1782	340.9	209.2	63.1	14S	93W
-2216	Feb 29	04:57:03	51826	4687	-52144	7	N	t-	-1.2341	0.6084	-0.4209	216.8	-	-	14N	146E
-2216	Jul 24	23:13:02	51816	4685	-52139	-26	Ne	-a	-1.5420	0.0057	-0.9486	20.2	-	-	25S	133W
-2216	Aug 23	08:09:41	51813	4685	-52138	12	N	a-	1.0458	0.9284	-0.0502	241.6	-	-	17S	94E
-2215	Jan 18	15:29:04	51803	4683	-52133	-21	P	-t	0.9228	1.2128	0.1178	307.3	83.6	-	24N	13W
-2215	Jul 14	16:02:12	51791	4681	-52127	-16	P	-a	-0.8485	1.2782	0.3236	268.0	119.3	-	25S	26W
-2214	Jan 07	15:55:57	51778	4679	-52121	-11	T+	pp	0.2072	2.5143	1.4419	363.1	225.5	92.2	24N	21W
-2214	Jul 04	06:20:57	51766	4676	-52115	-6	T-	pp	-0.1241	2.6276	1.6330	337.6	219.0	98.4	24S	118E
-2214	Dec 27	22:37:50	51753	4674	-52109	-1	P	a-	-0.5038	1.9431	0.9242	323.1	190.6	-	23N	123W
-2213	Jun 23	14:16:00	51741	4672	-52103	4	P	t-	0.6654	1.6604	0.6140	328.8	172.6	-	22S	1W
-2213	Nov 18	01:07:14	51730	4670	-52098	-29	N	-a	1.5189	0.0570	-0.9150	63.7	-	-	16N	163W
-2213	Dec 17	11:48:59	51728	4670	-52097	9	N	a-	-1.1529	0.7308	-0.2457	215.9	-	-	21N	38E
-2212	May 13	01:08:20	51718	4668	-52092	-24	N	-t	-1.3985	0.3235	-0.7389	171.1	-	-	14S	164W
-2212	Jun 11	15:53:27	51716	4667	-52091	14	N	t-	1.4401	0.2512	-0.8193	152.9	-	-	19S	26W
-2212	Nov 06	16:14:55	51705	4665	-52086	-19	P	-a	0.8990	1.2052	0.2115	268.3	99.2	-	11N	30W
-2211	May 02	05:14:26	51693	4663	-52080	-14	P	-t	-0.5924	1.7811	0.7611	326.0	183.6	-	9S	136E
-2211	Oct 27	02:57:51	51681	4661	-52074	-9	T+	-p	0.2360	2.4491	1.4013	348.3	217.9	87.2	7N	169E
-2210	Apr 21	16:29:45	51668	4659	-52068	-4	T+	p-	0.1993	2.4759	1.5084	326.0	212.6	91.8	4S	32W
-2210	Oct 16	06:26:11	51656	4656	-52062	1	P	t-	-0.4675	2.0485	0.9526	358.1	205.6	-	1N	118E
-2209	Apr 11	08:46:51	51643	4654	-52056	6	P	a-	0.9258	1.1299	0.1883	253.7	92.2	-	0N	85E
-2209	Oct 05	05:32:03	51631	4652	-52050	11	N	t-	-1.1452	0.8069	-0.2924	260.8	-	-	4S	132E
-2208	Mar 01	16:53:02	51620	4650	-52045	-22	P	-a	-0.9117	1.1796	0.1906	271.0	96.3	-	13N	34W
-2208	Aug 24	18:11:18	51608	4648	-52039	-17	N	-a	1.0488	0.9412	-0.0738	253.9	-	-	16S	57W

-2207	Feb 19	01:58:11	51596	4646	-52033	-12	T-	-p	-0.1881	2.5369	1.4890	357.2	224.9	94.8	17N	170W
-2207	Aug 14	07:28:23	51583	4643	-52027	-7	T	-p	0.2977	2.2944	1.3287	316.5	203.6	77.6	20S	103E
-2206	Feb 08	03:55:07	51571	4641	-52021	-2	P	t-	0.5527	1.8876	0.8009	352.9	195.4	-	21N	161E
-2206	Aug 03	23:57:28	51558	4639	-52015	3	T	p-	-0.4085	2.0859	1.1306	307.8	194.1	51.9	23S	144W
-2205	Jan 28	03:56:37	51546	4637	-52009	8	N	t-	1.2495	0.6038	-0.4724	226.3	-	-	24N	160E
-2205	Jun 25	04:47:30	51535	4635	-52004	-25	Ne	-a	1.4983	0.1131	-0.8954	96.2	-	-	21S	141E
-2205	Jul 24	14:59:01	51533	4634	-52003	13	N	a-	-1.1594	0.7246	-0.2633	222.5	-	-	25S	11W
-2205	Dec 18	20:34:34	51523	4632	-51998	-20	P	-a	-0.8967	1.2153	0.2103	273.8	100.4	-	21N	94W
-2204	Jun 13	10:43:50	51511	4630	-51992	-15	P	-t	0.7904	1.4362	0.3797	318.5	142.4	-	20S	51E
-2204	Dec 07	10:53:56	51498	4628	-51986	-10	T-	-p	-0.1970	2.4825	1.5103	317.7	206.8	89.3	20N	50E
-2203	Jun 02	11:33:29	51486	4626	-51980	-5	T+	pp	0.0324	2.8326	1.7651	374.0	235.9	106.4	18S	38E
-2203	Nov 27	02:26:42	51473	4623	-51974	0	T	p-	0.4713	1.9851	1.0011	309.5	188.4	4.9	18N	176E
-2202	May 22	14:21:42	51461	4621	-51968	5	P	t-	-0.7313	1.5321	0.5005	316.2	157.1	-	16S	4W
-2202	Nov 16	14:34:05	51448	4619	-51962	10	N	a-	1.1954	0.6817	-0.3523	223.8	-	-	15N	6W
-2201	Apr 12	16:16:49	51438	4617	-51957	-23	N	-a	1.1063	0.8064	-0.1506	226.2	-	-	0S	28W
-2201	May 12	00:09:46	51436	4617	-51956	15	N	a-	-1.4439	0.1971	-0.7798	121.9	-	-	13S	151W
-2201	Oct 07	00:59:26	51426	4615	-51951	-18	N	-t	-1.0678	0.9498	-0.1516	279.4	-	-	3S	160W
-2200	Apr 01	09:09:45	51413	4613	-51945	-13	T	-p	0.3622	2.1648	1.2216	308.5	198.0	65.8	3N	79E
-2200	Sep 25	00:17:08	51401	4610	-51939	-8	T	-p	-0.3801	2.2052	1.1166	361.9	215.1	53.9	7S	150W

22ND CENTURY BCE

In the 22nd century BCE the total number of lunar eclipses was 227 lunar eclipses:

**82 penumbral lunar eclipses, 62 partial lunar eclipses, 83 total lunar eclipses
(28 central total lunar eclipses, 55 non-central total lunar eclipses).**

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN	
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG	
			GREATEST	S						m	m	m	°	°		
				ECLIPSE												
-2199	Mar 22	01:16:32	51388	4608	-51933	-3	T	p-	-0.3799	2.1473	1.1743	319.3	201.1	60.5	7N	162W

-2199	Sep 14	04:40:04	51376	4606	-51927	2	T	a-	0.3373	2.2565	1.2220	341.0	210.5	69.1	11S	145E
-2198	Mar 11	12:09:45	51364	4604	-51921	7	N	t-	-1.1801	0.7077	-0.3220	232.4	-	-	10N	35E
-2198	Sep 03	16:23:33	51351	4601	-51915	12	P	a-	1.0157	0.9840	0.0046	246.8	15.0	-	14S	31W
-2197	Jan 29	22:49:17	51341	4600	-51910	-21	P	-t	0.9582	1.1458	0.0545	300.6	57.4	-	23N	124W
-2197	Jul 25	23:47:55	51329	4597	-51904	-16	P	-a	-0.9022	1.1820	0.2229	261.2	100.6	-	24S	143W
-2196	Jan 18	23:39:09	51316	4595	-51898	-11	T+	pp	0.2320	2.4658	1.3994	360.7	223.8	89.1	24N	138W
-2196	Jul 14	13:40:24	51304	4593	-51892	-6	T-	-p	-0.1861	2.5169	1.5162	338.0	217.5	93.7	24S	7E
-2195	Jan 07	06:55:42	51291	4591	-51886	-1	P	a-	-0.4884	1.9684	0.9552	322.7	192.1	-	23N	112E
-2195	Jul 03	20:59:23	51279	4588	-51880	4	P	t-	0.5935	1.7951	0.7434	337.6	186.3	-	23S	103W
-2195	Nov 28	10:01:20	51269	4587	-51875	-29	N	-a	1.5176	0.0590	-0.9124	64.8	-	-	19N	61E
-2195	Dec 27	20:29:40	51267	4586	-51874	9	N	a-	-1.1438	0.7457	-0.2274	217.3	-	-	22N	93W
-2194	May 24	07:26:27	51256	4584	-51869	-24	N	-t	-1.4821	0.1693	-0.8917	125.3	-	-	17S	99E
-2194	Jun 22	22:16:01	51254	4584	-51868	14	N	t-	1.3596	0.3999	-0.6726	190.4	-	-	21S	123W
-2194	Nov 18	01:03:16	51244	4582	-51863	-19	P	-a	0.8982	1.2079	0.2119	269.3	99.5	-	15N	164W
-2193	May 13	11:58:07	51231	4580	-51857	-14	P	-t	-0.6719	1.6333	0.6172	316.5	168.7	-	13S	32E
-2193	Nov 07	11:24:50	51219	4578	-51851	-9	T+	-p	0.2351	2.4526	1.4011	349.7	218.4	87.3	11N	40E
-2192	May 01	23:42:54	51207	4575	-51845	-4	T+	p-	0.1242	2.6118	1.6479	326.3	214.7	97.5	8S	143W
-2192	Oct 26	14:27:26	51194	4573	-51839	1	P	t-	-0.4638	2.0569	0.9579	359.3	206.2	-	6N	5W
-2191	Apr 21	16:14:26	51182	4571	-51833	6	P	a-	0.8562	1.2567	0.3167	263.6	117.3	-	4S	30W
-2191	Oct 15	13:27:00	51169	4569	-51827	11	N	t-	-1.1355	0.8251	-0.2751	262.9	-	-	1N	11E
-2190	Mar 13	00:25:08	51159	4567	-51822	-22	P	-a	-0.9695	1.0737	0.0843	262.5	65.2	-	10N	149W
-2190	Sep 05	02:11:50	51147	4565	-51816	-17	N	-a	1.0725	0.8977	-0.1173	248.3	-	-	13S	179W
-2189	Mar 02	09:11:02	51134	4562	-51810	-12	T-	-p	-0.2427	2.4368	1.3890	356.5	222.8	88.3	14N	80E
-2189	Aug 25	15:38:27	51122	4560	-51804	-7	T	-p	0.3302	2.2354	1.2683	314.7	201.0	71.4	17S	21W
-2188	Feb 19	10:57:37	51110	4558	-51798	-2	P	t-	0.5026	1.9781	0.8943	356.9	203.1	-	18N	54E
-2188	Aug 14	08:00:29	51097	4556	-51792	3	T	p-	-0.3688	2.1608	1.2015	310.6	197.5	63.1	20S	94E
-2187	Feb 07	11:18:11	51085	4553	-51786	8	N	t-	1.2084	0.6761	-0.3941	236.9	-	-	21N	48E
-2187	Aug 03	22:37:37	51072	4551	-51780	13	N	a-	-1.1149	0.8093	-0.1848	234.2	-	-	23S	126W
-2187	Dec 29	05:03:37	51062	4549	-51775	-20	P	-a	-0.9037	1.1999	0.1999	271.5	97.8	-	23N	138E
-2186	Jun 24	17:15:38	51050	4547	-51769	-15	P	-t	0.8710	1.2904	0.2296	307.9	113.5	-	22S	49W
-2186	Dec 18	19:40:04	51037	4545	-51763	-10	T-	-p	-0.2023	2.4715	1.5017	317.2	206.6	88.9	22N	82W
-2185	Jun 13	17:53:27	51025	4543	-51757	-5	T+	pp	0.1188	2.6743	1.6062	372.8	234.1	102.7	21S	59W
-2185	Dec 08	11:13:58	51013	4540	-51751	0	T	p-	0.4708	1.9864	1.0017	310.2	188.8	6.2	21N	43E
-2184	Jun 01	21:01:25	51000	4538	-51745	5	P	t-	-0.6469	1.6857	0.6567	324.3	174.9	-	19S	106W
-2184	Nov 26	23:06:09	50988	4536	-51739	10	N	a-	1.1994	0.6758	-0.3607	223.7	-	-	19N	136W
-2183	Apr 22	23:36:34	50978	4534	-51734	-23	N	-a	1.1751	0.6784	-0.2751	209.5	-	-	4S	141W
-2183	May 22	07:16:23	50976	4534	-51733	15	N	a-	-1.3640	0.3421	-0.6318	157.8	-	-	17S	100E
-2183	Oct 17	08:54:15	50965	4532	-51728	-18	N	-t	-1.0771	0.9342	-0.1700	278.0	-	-	2N	78E
-2182	Apr 12	16:39:04	50953	4530	-51722	-13	T	-a	0.4323	2.0355	1.0935	304.8	192.1	44.5	1S	36W
-2182	Oct 06	08:11:25	50941	4527	-51716	-8	T	-p	-0.3926	2.1825	1.0934	360.6	213.4	48.5	2S	89E

-2181	Apr 02	08:39:51	50928	4525	-51710	-3	T	p-	-0.3145	2.2676	1.2938	323.6	206.7	75.8	3N	84E
-2181	Sep 25	12:51:10	50916	4523	-51704	2	T	p-	0.3205	2.2871	1.2531	340.7	211.2	72.8	6S	19E
-2180	Mar 21	19:13:38	50903	4521	-51698	7	N	t-	-1.1198	0.8187	-0.2117	248.1	-	-	6N	73W
-2180	Sep 14	00:46:23	50891	4519	-51692	12	P	a-	0.9926	1.0267	0.0466	250.4	47.4	-	10S	159W
-2179	Feb 09	06:01:44	50881	4517	-51687	-21	Nx	t-	0.9999	1.0674	-0.0200	292.2	-	-	21N	127E
-2179	Aug 05	07:39:47	50868	4514	-51681	-16	P	a-	-0.9504	1.0959	0.1321	254.6	78.6	-	23S	98E
-2178	Jan 29	07:16:27	50856	4512	-51675	-11	T+	pp	0.2625	2.4067	1.3466	357.9	221.6	84.7	22N	107E
-2178	Jul 25	21:05:06	50844	4510	-51669	-6	T-	p-	-0.2429	2.4159	1.4088	338.1	215.3	87.2	24S	105W
-2177	Jan 18	15:05:42	50831	4508	-51663	-1	P	a-	-0.4658	2.0068	0.9998	322.6	194.4	-	23N	11W
-2177	Jul 15	03:48:41	50819	4506	-51657	4	P	t-	0.5270	1.9198	0.8625	345.1	197.0	-	23S	153E
-2177	Dec 09	18:51:31	50809	4504	-51652	-29	N	a-	1.5199	0.0542	-0.9160	62.1	-	-	22N	72W
-2176	Jan 08	05:02:48	50807	4503	-51651	9	N	a-	-1.1283	0.7722	-0.1971	220.1	-	-	23N	138E
-2176	Jun 03	13:49:01	50796	4502	-51646	-24	Ne	t-	-1.5619	0.0224	-1.0377	46.1	-	-	20S	1E
-2176	Jul 03	04:46:03	50794	4501	-51645	14	N	t-	1.2846	0.5387	-0.5360	218.2	-	-	22S	138E
-2176	Nov 28	09:48:10	50784	4499	-51640	-19	P	a-	0.8999	1.2056	0.2079	269.8	98.9	-	19N	63E
-2175	May 23	18:45:22	50772	4497	-51634	-14	P	t-	-0.7494	1.4893	0.4766	306.1	151.1	-	17S	72W
-2175	Nov 17	19:50:45	50759	4495	-51628	-9	T+	p-	0.2343	2.4556	1.4011	351.2	219.0	87.5	15N	88W
-2174	May 13	06:54:35	50747	4493	-51622	-4	T+	pp	0.0471	2.7518	1.7910	326.0	215.5	100.3	12S	106E
-2174	Nov 06	22:31:29	50735	4490	-51616	1	P	t-	-0.4627	2.0599	0.9588	360.1	206.6	-	10N	128W
-2173	May 02	23:37:39	50722	4488	-51610	6	P	a-	0.7828	1.3910	0.4518	273.0	137.4	-	8S	144W
-2173	Oct 26	21:27:53	50710	4486	-51604	11	N	t-	-1.1301	0.8350	-0.2651	263.9	-	-	5N	112W
-2172	Mar 23	07:46:59	50700	4484	-51599	-22	N	a-	-1.0349	0.9542	-0.0360	251.5	-	-	6N	97E
-2172	Apr 21	16:20:31	50698	4484	-51598	16	Nb	a-	1.5357	0.0207	-0.9405	39.3	-	-	3S	33W
-2172	Sep 15	10:23:17	50687	4482	-51593	-17	N	a-	1.0884	0.8684	-0.1463	244.1	-	-	9S	56E
-2171	Mar 12	16:13:44	50675	4480	-51587	-12	T	t-	-0.3045	2.3233	1.2756	355.0	219.4	77.8	10N	28W
-2171	Sep 04	23:56:36	50663	4478	-51581	-7	T	p-	0.3564	2.1883	1.2197	313.1	198.7	65.6	14S	147W
-2170	Mar 01	17:51:27	50651	4475	-51575	-2	T	t-	0.4455	2.0813	1.0006	361.0	210.8	4.1	15N	52W
-2170	Aug 25	16:10:37	50638	4473	-51569	3	T	p-	-0.3356	2.2239	1.2602	313.0	200.1	70.3	18S	31W
-2169	Feb 18	18:31:10	50626	4471	-51563	8	N	t-	1.1597	0.7625	-0.3017	248.5	-	-	19N	62W
-2169	Aug 15	06:23:09	50613	4469	-51557	13	N	a-	-1.0770	0.8821	-0.1185	243.8	-	-	21S	116E
-2168	Jan 09	13:27:19	50603	4467	-51552	-20	P	a-	-0.9155	1.1755	0.1809	268.4	93.0	-	23N	11E
-2168	Jul 04	23:52:14	50591	4465	-51546	-15	P	t-	0.9469	1.1535	0.0881	296.5	71.9	-	23S	149W
-2168	Dec 29	04:21:20	50579	4462	-51540	-10	T-	p-	-0.2117	2.4531	1.4858	316.5	206.2	88.1	23N	147E
-2167	Jun 24	00:19:38	50566	4460	-51534	-5	T+	pp	0.2004	2.5251	1.4562	370.5	230.7	95.2	23S	157W
-2167	Dec 18	19:56:52	50554	4458	-51528	0	T	p-	0.4672	1.9931	1.0081	311.1	189.6	13.5	23N	89W
-2166	Jun 13	03:45:31	50542	4456	-51522	5	P	t-	-0.5649	1.8350	0.8080	330.8	188.5	-	21S	151E
-2166	Dec 08	07:34:15	50529	4454	-51516	10	N	a-	1.2010	0.6737	-0.3648	224.2	-	-	21N	96E
-2165	May 04	06:54:59	50519	4452	-51511	-23	N	a-	1.2453	0.5482	-0.4025	190.3	-	-	8S	106E
-2165	Jun 02	14:26:23	50517	4451	-51510	15	N	a-	-1.2860	0.4841	-0.4874	184.5	-	-	20S	9W
-2165	Oct 28	16:51:57	50507	4450	-51505	-18	N	t-	-1.0836	0.9234	-0.1828	277.0	-	-	6N	44W

-2164	Apr 23	00:05:18	50494	4447	-51499	-13	P	-a	0.5047	1.9025	0.9609	300.2	184.7	-	5S	151W
-2164	Oct 16	16:12:32	50482	4445	-51493	-8	T	-p	-0.3997	2.1695	1.0806	359.4	212.3	45.2	2N	34W
-2163	Apr 12	15:56:55	50470	4443	-51487	-3	T-	p-	-0.2447	2.3964	1.4212	327.5	211.6	86.9	2S	28W
-2163	Oct 05	21:09:55	50458	4441	-51481	2	T	p-	0.3093	2.3071	1.2740	340.0	211.4	75.0	2S	108W
-2162	Apr 02	02:08:06	50445	4439	-51475	7	N	t-	-1.0527	0.9424	-0.0891	263.7	-	-	2N	180W
-2162	Sep 25	09:17:54	50433	4436	-51469	12	P	a-	0.9762	1.0570	0.0764	252.8	60.3	-	6S	70E
-2161	Feb 20	13:02:01	50423	4435	-51464	-21	N	-t	1.0513	0.9710	-0.1123	281.0	-	-	18N	20E
-2161	Aug 16	15:40:14	50410	4432	-51458	-16	P	-a	-0.9911	1.0237	0.0549	248.8	51.3	-	21S	24W
-2160	Feb 09	14:44:21	50398	4430	-51452	-11	T	-p	0.3015	2.3318	1.2781	354.5	218.5	77.7	20N	6W
-2160	Aug 05	04:36:23	50386	4428	-51446	-6	T	-p	-0.2931	2.3270	1.3133	338.1	212.8	79.2	22S	141E
-2159	Jan 28	23:09:02	50374	4426	-51440	-1	T	a-	-0.4369	2.0567	1.0559	322.9	197.2	35.8	22N	133W
-2159	Jul 25	10:43:57	50361	4424	-51434	4	P	t-	0.4660	2.0347	0.9716	351.3	205.4	-	23S	48E
-2159	Dec 20	03:38:42	50351	4422	-51429	-29	N	-a	1.5246	0.0449	-0.9239	56.6	-	-	24N	155E
-2158	Jan 18	13:29:57	50349	4421	-51428	9	N	a-	-1.1081	0.8073	-0.1580	223.8	-	-	22N	10E
-2158	Jul 14	11:21:19	50337	4419	-51422	14	N	t-	1.2131	0.6712	-0.4061	240.5	-	-	23S	38E
-2158	Dec 09	18:31:10	50326	4417	-51417	-19	P	-a	0.9026	1.2013	0.2024	270.2	97.9	-	22N	69W
-2157	Jun 04	01:35:29	50314	4415	-51411	-14	P	-t	-0.8254	1.3485	0.3385	294.8	129.6	-	20S	177W
-2157	Nov 29	04:14:32	50302	4413	-51405	-9	T+	-p	0.2344	2.4565	1.3997	352.4	219.6	87.6	18N	144E
-2156	May 23	14:09:02	50290	4411	-51399	-4	T-	pp	-0.0285	2.7848	1.8263	325.0	215.2	100.5	16S	5W
-2156	Nov 17	06:35:51	50277	4409	-51393	1	P	t-	-0.4621	2.0618	0.9594	360.8	206.9	-	14N	109E
-2155	May 13	07:00:46	50265	4406	-51387	6	P	a-	0.7093	1.5257	0.5867	281.4	153.4	-	12S	103E
-2155	Nov 06	05:31:25	50253	4404	-51381	11	N	t-	-1.1263	0.8415	-0.2579	264.3	-	-	9N	125E
-2154	Apr 03	15:02:21	50243	4402	-51376	-22	N	-a	-1.1044	0.8272	-0.1642	238.2	-	-	1N	14W
-2154	May 02	23:35:16	50241	4402	-51375	16	N	a-	1.4688	0.1443	-0.8188	103.0	-	-	7S	145W
-2154	Sep 26	18:42:49	50230	4400	-51370	-17	N	-a	1.0982	0.8502	-0.1641	241.3	-	-	5S	72W
-2153	Mar 23	23:06:10	50218	4398	-51364	-12	T	-t	-0.3736	2.1967	1.1487	352.6	214.3	59.9	6N	134W
-2153	Sep 16	08:23:51	50206	4396	-51358	-7	T	-p	0.3751	2.1547	1.1847	311.8	196.9	60.7	10S	84E
-2152	Mar 12	00:35:42	50193	4394	-51352	-2	T	t-	0.3809	2.1984	1.1206	364.9	218.0	55.5	11N	155W
-2152	Sep 05	00:28:44	50181	4391	-51346	3	T	p-	-0.3095	2.2738	1.3059	314.9	202.0	75.1	14S	157W
-2151	Mar 01	01:36:19	50169	4389	-51340	8	N	t-	1.1039	0.8618	-0.1963	260.5	-	-	15N	170W
-2151	Aug 25	14:16:45	50157	4387	-51334	13	N	a-	-1.0466	0.9411	-0.0659	251.4	-	-	18S	4W
-2150	Jan 19	21:43:11	50147	4385	-51329	-20	P	-a	-0.9344	1.1380	0.1490	264.1	84.6	-	22N	113W
-2150	Jul 16	06:34:18	50134	4383	-51323	-15	Nx	-t	1.0174	1.0267	-0.0435	284.4	-	-	23S	109E
-2149	Jan 09	12:55:30	50122	4381	-51317	-10	T-	-p	-0.2270	2.4235	1.4592	315.7	205.5	86.5	24N	17E
-2149	Jul 05	06:52:43	50110	4379	-51311	-5	T	pp	0.2765	2.3860	1.3160	367.4	225.9	83.6	23S	104E
-2149	Dec 30	04:32:51	50097	4376	-51305	0	T	p-	0.4586	2.0088	1.0240	312.3	190.9	23.2	24N	142E
-2148	Jun 23	10:36:56	50085	4374	-51299	5	P	t-	-0.4879	1.9755	0.9501	335.7	198.6	-	23S	47E
-2148	Dec 18	15:57:51	50073	4372	-51293	10	N	h-	1.2001	0.6760	-0.3638	225.3	-	-	24N	31W
-2147	May 14	14:12:36	50063	4370	-51288	-23	N	-a	1.3165	0.4164	-0.5320	167.6	-	-	12S	6W
-2147	Jun 12	21:39:43	50061	4370	-51287	15	N	a-	-1.2096	0.6233	-0.3465	205.8	-	-	22S	120W

-2147	Nov 08	00:53:16	50050	4368	-51282	-18	N	-t	-1.0869	0.9180	-0.1894	276.6	-	-	10N	166W
-2146	May 04	07:27:51	50038	4366	-51276	-13	P	-a	0.5799	1.7646	0.8229	294.7	175.2	-	9S	96E
-2146	Oct 28	00:19:39	50026	4364	-51270	-8	T	-p	-0.4027	2.1634	1.0754	358.4	211.6	43.7	7N	158W
-2145	Apr 23	23:07:23	50014	4361	-51264	-3	T-	pp	-0.1701	2.5343	1.5572	330.9	215.5	94.9	6S	139W
-2145	Oct 17	05:36:11	50001	4359	-51258	2	T	p-	0.3033	2.3175	1.2857	339.1	211.2	76.0	3N	123E
-2144	Apr 12	08:56:06	49989	4357	-51252	7	P	t-	-0.9807	1.0751	0.0421	278.8	48.7	-	2S	75E
-2144	Oct 05	17:55:17	49977	4355	-51246	12	P	a-	0.9642	1.0793	0.0983	254.3	68.1	-	1S	61W
-2143	Mar 02	19:55:23	49967	4353	-51241	-21	N	-t	1.1083	0.8644	-0.2147	267.6	-	-	15N	85W
-2143	Aug 26	23:47:30	49955	4351	-51235	-16	N	-a	-1.0260	0.9623	-0.0117	243.5	-	-	18S	147W
-2142	Feb 19	22:05:00	49942	4349	-51229	-11	T	-p	0.3474	2.2443	1.1972	350.5	214.5	67.2	18N	118W
-2142	Aug 16	12:14:17	49930	4347	-51223	-6	T	-a	-0.3371	2.2499	1.2293	337.9	210.0	69.9	20S	25E
-2141	Feb 09	07:04:18	49918	4344	-51217	-1	T	a-	-0.4004	2.1205	1.1261	323.5	200.4	52.6	20N	107E
-2141	Aug 05	17:47:19	49906	4342	-51211	4	T	t-	0.4121	2.1366	1.0677	356.5	211.9	41.8	22S	59W
-2141	Dec 31	12:18:17	49895	4340	-51206	-29	N	-a	1.5358	0.0234	-0.9435	40.9	-	-	25N	25E
-2140	Jan 29	21:47:47	49893	4340	-51205	9	N	a-	-1.0799	0.8570	-0.1044	229.0	-	-	21N	115W
-2140	Jul 24	18:07:11	49881	4338	-51199	14	N	t-	1.1492	0.7896	-0.2902	257.8	-	-	22S	65W
-2140	Dec 20	03:08:15	49871	4336	-51194	-19	P	-a	0.9101	1.1880	0.1882	269.9	94.8	-	24N	161E
-2139	Jun 14	08:30:51	49859	4334	-51188	-14	P	-t	-0.8981	1.2140	0.2062	282.8	102.7	-	22S	77E
-2139	Dec 09	12:34:07	49847	4332	-51182	-9	T+	-p	0.2374	2.4519	1.3933	353.6	220.0	87.3	21N	18E
-2138	Jun 03	21:25:15	49834	4329	-51176	-4	T-	pp	-0.1036	2.6461	1.6893	323.4	213.6	98.1	19S	117W
-2138	Nov 28	14:38:13	49822	4327	-51170	1	P	t-	-0.4601	2.0656	0.9627	361.4	207.3	-	18N	13W
-2137	May 24	14:22:33	49810	4325	-51164	6	P	a-	0.6347	1.6629	0.7234	288.9	166.6	-	15S	10W
-2137	Nov 17	13:37:34	49798	4323	-51158	11	N	t-	-1.1239	0.8450	-0.2527	264.3	-	-	13N	1E
-2136	Apr 13	22:09:58	49787	4321	-51153	-22	N	-a	-1.1790	0.6912	-0.3020	221.6	-	-	3S	124W
-2136	May 13	06:46:50	49785	4321	-51152	16	N	a-	1.4000	0.2719	-0.6938	140.2	-	-	11S	104E
-2136	Oct 07	03:10:09	49775	4319	-51147	-17	N	-a	1.1026	0.8416	-0.1719	239.5	-	-	0S	159E
-2135	Apr 03	05:50:41	49763	4317	-51141	-12	T	-t	-0.4482	2.0601	1.0116	348.9	207.0	17.5	2N	122E
-2135	Sep 26	16:58:44	49751	4315	-51135	-7	T	-p	0.3878	2.1320	1.1606	310.9	195.5	56.9	5S	47W
-2134	Mar 23	07:11:20	49739	4312	-51129	-2	T	tp	0.3090	2.3287	1.2539	368.3	224.4	77.0	7N	103E
-2134	Sep 16	08:54:29	49726	4310	-51123	3	T	p-	-0.2902	2.3115	1.3393	316.6	203.3	78.2	10S	74E
-2133	Mar 12	08:34:33	49714	4308	-51117	8	N	t-	1.0412	0.9738	-0.0783	272.6	-	-	12N	83E
-2133	Sep 05	22:17:31	49702	4306	-51111	13	N	a-	-1.0227	0.9883	-0.0252	257.6	-	-	15S	126W
-2132	Jan 31	05:52:13	49692	4304	-51106	-20	P	-a	-0.9597	1.0887	0.1055	258.7	71.4	-	21N	123E
-2132	Jul 26	13:24:27	49680	4302	-51100	-15	N	-t	1.0805	0.9133	-0.1618	272.2	-	-	22S	6E
-2131	Jan 19	21:23:41	49667	4300	-51094	-10	T	-p	-0.2474	2.3845	1.4232	314.7	204.6	84.3	23N	110W
-2131	Jul 15	13:33:18	49655	4298	-51088	-5	T	-t	0.3468	2.2576	1.1862	363.7	220.0	67.1	24S	2E
-2130	Jan 09	13:02:18	49643	4295	-51082	0	T	p-	0.4452	2.0333	1.0488	313.8	192.8	32.9	24N	14E
-2130	Jul 04	17:35:44	49631	4293	-51076	5	T	h-	-0.4161	2.1067	1.0825	339.3	206.1	44.7	24S	59W
-2130	Dec 30	00:13:00	49619	4291	-51070	10	N	h-	1.1933	0.6890	-0.3516	227.9	-	-	25N	156W
-2129	May 25	21:31:46	49608	4289	-51065	-23	N	-a	1.3869	0.2865	-0.6605	140.4	-	-	15S	118W

-2129	Jun 24	04:59:24	49606	4289	-51064	15	N	a-	-1.1376	0.7549	-0.2137	222.8	-	-	24S	129E
-2129	Nov 19	08:54:01	49596	4287	-51059	-18	N	t-	-1.0903	0.9117	-0.1959	275.9	-	-	14N	72E
-2128	May 14	14:49:46	49584	4285	-51053	-13	P	a-	0.6554	1.6264	0.6838	288.3	163.6	-	13S	18W
-2128	Nov 07	08:28:48	49572	4283	-51047	-8	T	p-	-0.4048	2.1589	1.0725	357.3	211.0	42.8	11N	78E
-2127	May 04	06:14:22	49560	4281	-51041	-3	T-	pp	-0.0934	2.6763	1.6967	333.7	218.3	99.9	10S	112E
-2127	Oct 27	14:07:26	49548	4278	-51035	2	T	p-	0.3006	2.3214	1.2915	338.0	210.8	76.4	7N	7W
-2126	Apr 23	15:35:40	49535	4276	-51029	7	P	t-	-0.9027	1.2193	0.1844	293.4	100.2	-	6S	28W
-2126	Oct 17	02:39:39	49523	4274	-51023	12	P	a-	0.9577	1.0912	0.1103	255.0	71.9	-	3N	165E
-2125	Mar 14	02:38:15	49513	4272	-51018	-21	N	t-	1.1734	0.7429	-0.3322	250.7	-	-	11N	171E
-2125	Sep 07	08:03:27	49501	4270	-51012	-16	N	a-	-1.0533	0.9147	-0.0643	239.4	-	-	14S	87E
-2124	Mar 02	05:17:18	49489	4268	-51006	-11	T	t-	0.4009	2.1428	1.1023	345.6	209.2	49.8	14N	132E
-2124	Aug 26	20:00:38	49476	4266	-51000	-6	T	a-	-0.3730	2.1873	1.1600	337.9	207.5	59.9	17S	93W
-2123	Feb 19	14:52:55	49464	4264	-50994	-1	T	a-	-0.3575	2.1960	1.2078	324.2	203.8	65.6	17N	12W
-2123	Aug 16	00:57:33	49452	4261	-50988	4	T	p-	0.3642	2.2274	1.1526	360.8	216.9	61.0	19S	168W
-2122	Feb 09	05:59:11	49440	4259	-50982	9	N	a-	-1.0464	0.9165	-0.0409	234.9	-	-	19N	121E
-2122	Aug 05	01:01:10	49428	4257	-50976	14	N	t-	1.0912	0.8975	-0.1850	271.9	-	-	21S	169W
-2122	Dec 31	11:39:11	49417	4255	-50971	-19	P	a-	0.9220	1.1663	0.1662	268.8	89.6	-	25N	32E
-2121	Jun 25	15:32:26	49405	4253	-50965	-14	P	t-	-0.9665	1.0876	0.0816	270.3	65.5	-	24S	30W
-2121	Dec 20	20:48:26	49393	4251	-50959	-9	T+	p-	0.2441	2.4401	1.3804	354.5	220.2	86.6	23N	106W
-2120	Jun 14	04:46:19	49381	4249	-50953	-4	T-	pp	-0.1750	2.5145	1.5587	321.2	211.1	93.4	21S	131E
-2120	Dec 08	22:36:52	49369	4247	-50947	1	P	t-	-0.4553	2.0742	0.9717	362.0	208.1	-	20N	134W
-2119	Jun 03	21:46:57	49357	4245	-50941	6	P	a-	0.5622	1.7965	0.8558	295.5	177.3	-	18S	124W
-2119	Nov 27	21:42:53	49345	4242	-50935	11	N	t-	-1.1205	0.8501	-0.2451	264.3	-	-	17N	122W
-2118	Apr 25	05:11:42	49334	4241	-50930	-22	N	a-	-1.2572	0.5489	-0.4466	201.1	-	-	7S	127E
-2118	May 24	13:56:41	49332	4240	-50929	16	N	a-	1.3304	0.4012	-0.5678	168.9	-	-	15S	6W
-2118	Oct 18	11:43:42	49322	4238	-50924	-17	N	a-	1.1028	0.8407	-0.1716	238.6	-	-	4N	28E
-2117	Apr 14	12:27:48	49310	4236	-50918	-12	P	t-	-0.5280	1.9142	0.8647	344.0	197.2	-	2S	19E
-2117	Oct 08	01:40:14	49298	4234	-50912	-7	T	p-	0.3954	2.1185	1.1462	310.2	194.6	54.5	1S	180E
-2116	Apr 02	13:40:16	49286	4232	-50906	-2	T+	pp	0.2316	2.4696	1.3973	371.2	229.7	91.2	3N	3E
-2116	Sep 26	17:27:46	49274	4230	-50900	3	T	p-	-0.2773	2.3371	1.3610	317.9	204.3	80.1	6S	57W
-2115	Mar 22	15:26:18	49261	4228	-50894	8	P	t-	0.9723	1.0974	0.0510	284.4	54.0	-	8N	23W
-2115	Sep 16	06:25:43	49249	4226	-50888	13	P	a-	-1.0056	1.0227	0.0031	262.3	12.8	-	11S	110E
-2114	Feb 10	13:53:12	49239	4224	-50883	-20	P	a-	-0.9920	1.0264	0.0489	251.9	48.9	-	19N	2E
-2114	Aug 06	20:22:43	49227	4222	-50877	-15	N	t-	1.1362	0.8138	-0.2664	260.2	-	-	21S	100W
-2113	Jan 31	05:41:53	49215	4219	-50871	-10	T	p-	-0.2761	2.3303	1.3721	313.4	203.1	80.6	22N	124E
-2113	Jul 26	20:23:39	49203	4217	-50865	-5	T	t-	0.4094	2.1436	1.0706	359.7	213.5	42.9	23S	101W
-2112	Jan 20	21:23:08	49191	4215	-50859	0	T	p-	0.4255	2.0691	1.0851	315.8	195.2	43.1	24N	112W
-2112	Jul 15	00:43:03	49178	4213	-50853	5	T	a-	-0.3502	2.2273	1.2039	341.7	211.5	67.3	24S	167W
-2111	Jan 09	08:20:57	49166	4211	-50847	10	N	h-	1.1816	0.7107	-0.3304	231.7	-	-	25N	82E
-2111	Jun 05	04:52:51	49156	4209	-50842	-23	N	a-	1.4559	0.1595	-0.7868	105.8	-	-	18S	129E

-2111 Jul 04	12:24:51	49154	4209	-50841	15	N	a-	-1.0696	0.8793	-0.0887	236.7	-	-	25S	17E
-2111 Nov 29	16:54:41	49144	4207	-50836	-18	N	t-	-1.0938	0.9050	-0.2020	275.1	-	-	17N	50W
-2110 May 25	22:09:33	49132	4205	-50830	-13	P	a-	0.7325	1.4859	0.5417	280.8	149.1	-	16S	130W
-2110 Nov 18	16:41:15	49120	4203	-50824	-8	T	p-	-0.4047	2.1577	1.0738	356.2	210.6	43.1	15N	47W
-2109 May 15	13:18:06	49108	4200	-50818	-3	T-	pp-	-0.0149	2.8219	1.8390	335.7	219.9	102.0	13S	3E
-2109 Nov 07	22:42:03	49096	4198	-50812	2	T	p-	0.3000	2.3213	1.2939	336.8	210.3	76.5	11N	138W
-2108 May 03	22:12:17	49083	4196	-50806	7	P	t-	-0.8229	1.3670	0.3296	306.7	131.6	-	10S	130W
-2108 Oct 27	11:28:02	49071	4194	-50800	12	P	a-	0.9544	1.0970	0.1165	255.1	73.7	-	8N	30E
-2107 Mar 24	09:15:56	49061	4192	-50795	-21	N	t-	1.2427	0.6136	-0.4574	230.3	-	-	7N	69E
-2107 Sep 17	16:25:29	49049	4190	-50789	-16	N	a-	-1.0754	0.8768	-0.1073	236.1	-	-	10S	41W
-2106 Mar 13	12:24:10	49037	4188	-50783	-11	P	t-	0.4599	2.0312	0.9972	340.0	202.4	-	10N	23E
-2106 Sep 07	03:54:09	49025	4186	-50777	-6	T	a-	-0.4024	2.1367	1.1028	338.0	205.2	49.0	14S	147E
-2105 Mar 02	22:33:15	49013	4184	-50771	-1	T	p-	-0.3066	2.2864	1.3042	325.0	207.1	76.7	14N	129W
-2105 Aug 27	08:17:25	49000	4181	-50765	4	T	p-	0.3246	2.3030	1.2226	364.3	220.6	72.0	16S	81E
-2104 Feb 20	14:01:49	48988	4179	-50759	9	P	a-	-1.0052	0.9903	0.0365	241.9	41.5	-	16N	2W
-2104 Aug 15	08:05:47	48976	4177	-50753	14	N	t-	1.0409	0.9910	-0.0941	282.9	-	-	19S	83E
-2103 Jan 10	20:01:31	48966	4175	-50748	-19	P	a-	0.9406	1.1322	0.1319	266.6	80.5	-	25N	94W
-2103 Jul 05	22:42:13	48954	4173	-50742	-14	N	-h	-1.0294	0.9717	-0.0331	257.7	-	-	25S	138W
-2103 Dec 31	04:54:43	48942	4171	-50736	-9	T+	p-	0.2567	2.4174	1.3572	355.1	220.1	84.9	24N	132E
-2102 Jun 25	12:11:31	48930	4169	-50730	-4	T-	p-	-0.2437	2.3883	1.4329	318.4	207.7	86.2	23S	19E
-2102 Dec 20	06:30:31	48918	4167	-50724	1	P	t-	-0.4465	2.0898	0.9884	362.8	209.4	-	22N	106E
-2101 Jun 15	05:13:25	48906	4165	-50718	6	P	a-	0.4915	1.9272	0.9845	301.1	186.0	-	21S	123E
-2101 Dec 09	05:46:07	48893	4163	-50712	11	N	t-	-1.1145	0.8594	-0.2325	264.8	-	-	20N	116E
-2100 May 05	12:09:07	48883	4161	-50707	-22	N	a-	-1.3378	0.4026	-0.5959	175.4	-	-	11S	20E
-2100 Jun 03	21:07:01	48881	4160	-50706	16	N	a-	1.2617	0.5294	-0.4435	192.4	-	-	18S	116W
-2100 Oct 28	20:23:17	48871	4159	-50701	-17	N	-a	1.0993	0.8463	-0.1642	238.5	-	-	9N	104W

21ST CENTURY BCE

In the 21st century BCE the total number of lunar eclipses was 230 lunar eclipses:
**77 penumbral lunar eclipses, 68 partial lunar eclipses, 85 total lunar eclipses
(32 central total lunar eclipses, 53 non-central total lunar eclipses).**

	CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
	DATE	OF	s	SIGMA	NUM	NUM	TYPE		MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG	
	GREATEST		S								m	m	m	°	°	
ECLIPSE																
-2099 Apr 24	18:58:39	48859	4156	-50695	-12	P	-t	-0.6119	1.7609	0.7101	337.4	184.0	-	7S	81W	
-2099 Oct 18	10:27:36	48847	4154	-50689	-7	T	-p	0.3985	2.1132	1.1401	309.8	194.1	53.4	4N	45E	
-2098 Apr 13	20:03:27	48835	4152	-50683	-2	T+	pp	0.1490	2.6198	1.5499	373.1	233.5	100.6	2S	96W	
-2098 Oct 08	02:07:08	48823	4150	-50677	3	T-	p-	-0.2701	2.3522	1.3723	319.0	204.9	81.0	1S	171E	
-2097 Apr 02	22:12:54	48811	4148	-50671	8	P	t-	0.8980	1.2310	0.1901	295.6	101.9	-	3N	127W	
-2097 Sep 27	14:40:34	48799	4146	-50665	13	P	a-	-0.9948	1.0455	0.0199	265.7	32.4	-	6S	16W	
-2096 Feb 21	21:47:48	48789	4144	-50660	-20	N	-a	-1.0302	0.9536	-0.0183	243.8	-	-	16N	119W	
-2096 Aug 17	03:28:43	48776	4142	-50654	-15	N	-t	1.1848	0.7269	-0.3581	248.7	-	-	18S	152E	
-2095 Feb 10	13:53:33	48764	4140	-50648	-10	T	-p	-0.3102	2.2662	1.3109	311.8	201.1	75.4	19N	0W	
-2095 Aug 06	03:23:38	48752	4138	-50642	-5	P	-t	0.4644	2.0435	0.9689	355.5	206.7	-	21S	153E	
-2094 Jan 31	05:34:44	48740	4135	-50636	0	T	p-	0.3987	2.1180	1.1347	318.1	198.3	53.6	22N	124E	
-2094 Jul 26	07:59:48	48728	4133	-50630	5	T	p-	-0.2909	2.3357	1.3128	343.3	215.2	80.0	23S	83E	
-2093 Jan 20	16:18:17	48716	4131	-50624	10	N	h-	1.1622	0.7464	-0.2948	237.4	-	-	24N	38W	
-2093 Jun 16	12:18:40	48706	4129	-50619	-23	Ne	-a	1.5216	0.0391	-0.9071	52.8	-	-	20S	16E	
-2093 Jul 15	19:59:06	48704	4129	-50618	15	P	a-	-1.0080	0.9923	0.0244	247.8	34.6	-	25S	98W	
-2093 Dec 11	00:50:03	48694	4127	-50613	-18	N	-t	-1.1014	0.8904	-0.2151	273.2	-	-	20N	170W	
-2092 Jun 05	05:32:11	48682	4125	-50607	-13	P	-a	0.8067	1.3509	0.4044	272.6	131.7	-	19S	117E	
-2092 Nov 29	00:52:51	48670	4123	-50601	-8	T	-p	-0.4058	2.1539	1.0734	354.9	210.1	42.9	18N	172W	
-2091 May 25	20:19:49	48658	4121	-50595	-3	T+	pp	0.0643	2.7333	1.7466	337.0	220.1	101.3	17S	105W	
-2091 Nov 18	07:18:38	48646	4119	-50589	2	T	p-	0.3003	2.3193	1.2950	335.4	209.8	76.4	15N	91E	
-2090 May 15	04:44:08	48633	4117	-50583	7	P	t-	-0.7400	1.5206	0.4802	318.9	155.7	-	14S	129E	
-2090 Nov 07	20:19:43	48621	4115	-50577	12	P	a-	0.9534	1.0984	0.1188	254.7	74.3	-	12N	105W	
-2089 Apr 04	15:45:11	48611	4113	-50572	-21	N	-t	1.3188	0.4721	-0.5952	204.3	-	-	3N	31W	
-2089 May 04	06:39:27	48609	4112	-50571	17	Nb	t-	-1.5241	0.0959	-0.9723	95.7	-	-	11S	101E	
-2089 Sep 29	00:55:41	48599	4111	-50566	-16	N	-a	-1.0906	0.8513	-0.1376	234.0	-	-	6S	171W	
-2088 Mar 23	19:24:54	48587	4109	-50560	-11	P	-t	0.5251	1.9086	0.8807	333.3	193.7	-	6N	85W	
-2088 Sep 17	11:54:30	48575	4106	-50554	-6	T	-a	-0.4254	2.0977	1.0574	338.4	203.2	37.2	10S	24E	
-2087 Mar 13	06:08:13	48563	4104	-50548	-1	T-	p-	-0.2503	2.3867	1.4104	325.7	210.1	85.6	10N	114E	
-2087 Sep 06	15:45:21	48551	4102	-50542	4	T	p-	0.2918	2.3659	1.2801	367.1	223.3	79.2	13S	33W	
-2086 Mar 02	21:56:38	48539	4100	-50536	9	P	a-	-0.9575	1.0759	0.1257	249.5	75.9	-	13N	123W	
-2086 Aug 26	15:20:12	48527	4098	-50530	14	Nx	t-	0.9980	1.0711	-0.0165	291.5	-	-	16S	27W	
-2085 Jan 22	04:15:52	48517	4096	-50525	-19	P	-a	0.9653	1.0870	0.0868	263.3	65.9	-	24N	142E	
-2085 Jul 17	06:00:38	48505	4094	-50519	-14	N	-h	-1.0859	0.8675	-0.1364	245.3	-	-	25S	111E	
-2084 Jan 11	12:52:40	48493	4092	-50513	-9	T	-p	0.2754	2.3830	1.3227	355.4	219.5	82.0	24N	11E	
-2084 Jul 05	19:44:18	48481	4090	-50507	-4	T	-p	-0.3067	2.2729	1.3173	315.4	203.6	76.8	24S	96W	

-2084	Dec 30	14:18:03	48469	4088	-50501	1	T	t-	-0.4327	2.1142	1.0146	363.8	211.3	19.9	23N	11W
-2083	Jun 25	12:43:23	48457	4085	-50495	6	T	a-	0.4238	2.0527	1.1075	305.9	193.0	47.5	23S	9E
-2083	Dec 19	13:45:57	48445	4083	-50489	11	N	t-	-1.1050	0.8748	-0.2131	266.0	-	-	22N	5W
-2082	May 16	19:03:38	48434	4082	-50484	-22	N	-h	-1.4196	0.2543	-0.7478	141.9	-	-	15S	87W
-2082	Jun 15	04:18:38	48432	4081	-50483	16	N	h-	1.1942	0.6554	-0.3220	212.3	-	-	20S	135E
-2082	Nov 09	05:04:57	48422	4079	-50478	-17	N	-a	1.0947	0.8536	-0.1546	238.6	-	-	13N	123E
-2081	May 06	01:25:05	48410	4077	-50472	-12	P	-t	-0.6985	1.6030	0.5503	329.2	166.7	-	11S	179E
-2081	Oct 29	19:18:40	48398	4075	-50466	-7	T	-p	0.3989	2.1125	1.1392	309.6	193.9	53.2	8N	90W
-2080	Apr 24	02:23:16	48386	4073	-50460	-2	T+	pp	0.0636	2.7756	1.7077	374.0	235.6	105.6	6S	166E
-2080	Oct 18	10:50:29	48374	4071	-50454	3	T-	p-	-0.2666	2.3604	1.3771	320.0	205.3	81.5	3N	38E
-2079	Apr 13	04:56:02	48362	4069	-50448	8	P	t-	0.8195	1.3723	0.3366	305.8	132.3	-	1S	129E
-2079	Oct 07	23:01:26	48350	4067	-50442	13	P	a-	-0.9897	1.0577	0.0267	268.1	37.6	-	2S	144W
-2078	Mar 04	05:33:17	48340	4065	-50437	-20	N	-a	-1.0765	0.8660	-0.1006	233.7	-	-	12N	123E
-2078	Apr 02	14:18:34	48338	4065	-50436	18	Nb	a-	1.5173	0.0653	-0.9175	71.2	-	-	4N	11W
-2078	Aug 28	10:44:42	48328	4063	-50431	-15	N	-t	1.2249	0.6557	-0.4341	238.4	-	-	15S	41E
-2077	Feb 21	21:55:29	48316	4061	-50425	-10	T	-p	-0.3527	2.1869	1.2344	309.7	198.3	67.2	16N	123W
-2077	Aug 17	10:34:53	48304	4059	-50419	-5	P	-t	0.5108	1.9591	0.8829	351.5	200.1	-	19S	43E
-2076	Feb 11	13:36:44	48292	4057	-50413	0	T	p-	0.3645	2.1806	1.1977	320.7	201.8	63.8	20N	2E
-2076	Aug 05	15:27:26	48280	4054	-50407	5	T-	p-	-0.2396	2.4298	1.4071	344.1	217.6	87.8	22S	30W
-2075	Jan 31	00:07:11	48268	4052	-50401	10	N	t-	1.1367	0.7930	-0.2482	244.3	-	-	23N	156W
-2075	Jul 26	03:40:05	48256	4050	-50395	15	P	a-	-0.9512	1.0966	0.1283	256.9	78.1	-	24S	146E
-2075	Dec 21	08:42:50	48246	4048	-50390	-18	N	-t	-1.1110	0.8717	-0.2317	270.6	-	-	22N	71E
-2074	Jun 16	12:55:53	48234	4046	-50384	-13	P	-a	0.8794	1.2189	0.2694	263.4	109.8	-	21S	5E
-2074	Dec 10	09:03:00	48222	4044	-50378	-8	T	-p	-0.4089	2.1462	1.0697	353.4	209.4	41.8	21N	64E
-2073	Jun 06	03:21:50	48210	4042	-50372	-3	T+	pp	0.1423	2.5923	1.6012	337.5	219.0	97.6	19S	148E
-2073	Nov 29	15:55:29	48198	4040	-50366	2	T	p-	0.3002	2.3175	1.2969	334.1	209.3	76.5	19N	40W
-2072	May 25	11:16:00	48186	4038	-50360	7	P	t-	-0.6575	1.6737	0.6300	329.8	174.6	-	17S	29E
-2072	Nov 18	05:11:36	48174	4036	-50354	12	P	a-	0.9524	1.0995	0.1212	254.4	74.9	-	16N	120E
-2071	Apr 14	22:12:19	48164	4034	-50349	-21	N	-t	1.3966	0.3277	-0.7361	172.1	-	-	1S	131W
-2071	May 14	12:54:55	48162	4034	-50348	17	N	t-	-1.4379	0.2540	-0.8140	153.6	-	-	14S	4E
-2071	Oct 09	09:30:40	48152	4032	-50343	-16	N	-a	-1.1016	0.8333	-0.1600	232.7	-	-	1S	58E
-2070	Apr 04	02:20:54	48140	4030	-50337	-11	P	-t	0.5951	1.7772	0.7551	325.4	182.7	-	2N	168E
-2070	Sep 28	20:01:52	48128	4028	-50331	-6	T	-a	-0.4419	2.0705	1.0243	339.0	201.8	24.5	5S	100W
-2069	Mar 24	13:36:56	48116	4026	-50325	-1	T-	p-	-0.1879	2.4985	1.5275	326.1	212.6	92.6	6N	1W
-2069	Sep 17	23:21:55	48104	4023	-50319	4	T+	p-	0.2666	2.4146	1.3239	369.4	225.3	83.8	9S	150W
-2068	Mar 13	05:43:53	48092	4021	-50313	9	P	a-	-0.9035	1.1736	0.2264	257.6	100.5	-	9N	118E
-2068	Sep 05	22:46:22	48080	4019	-50307	14	P	t-	0.9640	1.1345	0.0448	297.8	51.8	-	13S	141W
-2067	Feb 01	12:20:20	48070	4018	-50302	-19	P	-a	0.9975	1.0278	0.0277	258.4	37.6	-	22N	20E
-2067	Jul 27	13:28:13	48058	4015	-50296	-14	N	-h	-1.1361	0.7752	-0.2283	233.2	-	-	24S	2W

-2066	Jan 21	20:40:38	48046	4013	-50290	-9	T	-p	0.3017	2.3347	1.2746	355.3	218.4	77.2	23N	106W
-2066	Jul 17	03:23:43	48034	4011	-50284	-4	T	-p	-0.3648	2.1666	1.2103	312.2	199.0	64.7	24S	148E
-2065	Jan 10	21:56:25	48022	4009	-50278	1	T	t-	-0.4114	2.1521	1.0549	365.1	213.9	38.1	24N	127W
-2065	Jul 06	20:18:25	48010	4007	-50272	6	T	p-	0.3605	2.1705	1.2221	310.0	198.5	65.9	23S	106W
-2065	Dec 30	21:41:01	47998	4005	-50266	11	N	t-	-1.0907	0.8987	-0.1844	268.1	-	-	23N	124W
-2064	May 27	01:56:09	47987	4003	-50261	-22	Ne	-h	-1.5015	0.1060	-0.9001	93.3	-	-	19S	168E
-2064	Jun 25	11:32:24	47986	4003	-50260	16	N	h-	1.1292	0.7773	-0.2052	229.4	-	-	22S	25E
-2064	Nov 19	13:48:28	47976	4001	-50255	-17	N	-a	1.0894	0.8618	-0.1437	238.8	-	-	17N	9W
-2063	May 16	07:48:42	47964	3999	-50249	-12	P	-t	-0.7864	1.4426	0.3878	319.1	143.9	-	14S	80E
-2063	Nov 09	04:12:49	47952	3997	-50243	-7	T	-p	0.3969	2.1162	1.1430	309.5	194.0	53.8	12N	135E
-2062	May 05	08:39:23	47940	3995	-50237	-2	T-	pp	-0.0251	2.8452	1.7790	373.8	235.9	106.5	10S	69E
-2062	Oct 29	19:38:03	47928	3993	-50231	3	T-	p-	-0.2671	2.3610	1.3747	320.9	205.5	81.4	8N	96W
-2061	Apr 24	11:37:20	47916	3991	-50225	8	P	t-	0.7383	1.5189	0.4879	314.9	155.2	-	5S	25E
-2061	Oct 19	07:26:01	47904	3988	-50219	13	P	a-	-0.9884	1.0626	0.0267	269.7	37.7	-	3N	87E
-2060	Mar 14	13:13:49	47894	3987	-50214	-20	N	-a	-1.1274	0.7701	-0.1915	221.8	-	-	8N	5E
-2060	Apr 12	21:32:49	47892	3986	-50213	18	N	a-	1.4457	0.1942	-0.7836	120.8	-	-	0S	122W
-2060	Sep 07	18:09:32	47882	3985	-50208	-15	N	-t	1.2575	0.5981	-0.4960	229.4	-	-	12S	72W
-2059	Mar 04	05:50:44	47870	3982	-50202	-10	T	-a	-0.4006	2.0978	1.1477	307.2	194.6	54.9	13N	116E
-2059	Aug 27	17:55:57	47858	3980	-50196	-5	P	-t	0.5497	1.8886	0.8109	347.7	193.9	-	16S	69W
-2058	Feb 21	21:29:25	47846	3978	-50190	0	T	p-	0.3233	2.2560	1.2734	323.6	205.5	73.4	17N	118W
-2058	Aug 16	23:05:45	47834	3976	-50184	5	T-	p-	-0.1964	2.5090	1.4864	344.2	219.0	92.7	20S	146W
-2057	Feb 11	07:43:20	47822	3974	-50178	10	N	t-	1.1021	0.8564	-0.1846	253.1	-	-	20N	89E
-2057	Aug 06	11:31:36	47810	3972	-50172	15	P	a-	-0.9028	1.1858	0.2168	264.0	100.0	-	23S	27E
-2056	Jan 01	16:27:35	47800	3970	-50167	-18	N	-t	-1.1263	0.8420	-0.2584	266.5	-	-	23N	46W
-2056	Jun 26	20:23:55	47788	3968	-50161	-13	P	-a	0.9480	1.0949	0.1418	253.8	81.3	-	22S	109W
-2056	Dec 20	17:08:45	47776	3966	-50155	-8	T	-p	-0.4161	2.1307	1.0589	351.5	208.3	38.5	22N	58W
-2055	Jun 16	10:24:59	47764	3964	-50149	-3	T+	-p	0.2182	2.4557	1.4596	337.3	216.6	90.8	21S	40E
-2055	Dec 10	00:30:14	47752	3962	-50143	2	T	p-	0.2976	2.3202	1.3039	332.8	209.0	77.0	21N	170W
-2054	Jun 05	17:45:52	47740	3960	-50137	7	P	t-	-0.5739	1.8290	0.7814	339.4	190.0	-	20S	71W
-2054	Nov 29	14:03:38	47728	3958	-50131	12	P	a-	0.9515	1.1002	0.1238	254.1	75.6	-	19N	14W
-2053	Apr 26	04:34:46	47718	3956	-50126	-21	N	-t	1.4779	0.1770	-0.8838	127.9	-	-	5S	130E
-2053	May 25	19:09:40	47716	3956	-50125	17	N	t-	-1.3503	0.4149	-0.6535	193.4	-	-	18S	92W
-2053	Oct 20	18:10:54	47706	3954	-50120	-16	N	-a	-1.1079	0.8238	-0.1736	232.4	-	-	3N	75W
-2052	Apr 14	09:13:50	47694	3952	-50114	-11	P	-t	0.6684	1.6400	0.6232	316.4	169.1	-	2S	61E
-2052	Oct 09	04:15:30	47682	3950	-50108	-6	T	-a	-0.4522	2.0544	1.0027	339.9	201.1	8.2	1S	134E
-2051	Apr 03	21:00:54	47670	3948	-50102	-1	T-	p-	-0.1207	2.6193	1.6532	326.2	214.4	97.4	2N	115W
-2051	Sep 28	07:05:57	47658	3946	-50096	4	T+	pp	0.2477	2.4515	1.3563	371.2	226.7	86.8	5S	92E
-2050	Mar 24	13:24:50	47646	3943	-50090	9	P	a-	-0.8441	1.2812	0.3366	265.6	120.6	-	5N	0E
-2050	Sep 17	06:21:58	47634	3941	-50084	14	P	t-	0.9367	1.1856	0.0939	302.5	74.4	-	9S	103E
-2049	Feb 12	20:14:48	47624	3940	-50079	-19	N	-a	1.0373	0.9547	-0.0453	251.8	-	-	20N	100W

-2049	Aug 07	21:05:54	47612	3938	-50073	-14	N	-a	-1.1791	0.6961	-0.3071	222.0	-	-	22S	117W
-2048	Feb 02	04:19:19	47600	3935	-50067	-9	T	-t	0.3352	2.2730	1.2134	354.6	216.4	69.7	22N	138E
-2048	Jul 27	11:10:43	47589	3933	-50061	-4	T	-p	-0.4171	2.0711	1.1137	308.9	194.1	48.9	23S	30E
-2047	Jan 21	05:26:59	47577	3931	-50055	1	T	t-	-0.3836	2.2016	1.1073	366.6	217.0	52.4	23N	120E
-2047	Jul 17	03:59:09	47565	3929	-50049	6	T	p-	0.3019	2.2798	1.3277	313.3	202.7	77.3	24S	137E
-2046	Jan 10	05:28:45	47553	3927	-50043	11	N	t-	-1.0697	0.9346	-0.1432	271.4	-	-	23N	118E
-2046	Jul 06	18:50:08	47541	3925	-50037	16	N	h-	1.0679	0.8925	-0.0956	244.0	-	-	23S	86W
-2046	Nov 30	22:30:52	47531	3923	-50032	-17	N	-a	1.0859	0.8665	-0.1355	238.5	-	-	20N	141W
-2045	May 27	14:12:10	47519	3921	-50026	-12	P	-t	-0.8736	1.2842	0.2266	307.4	112.9	-	18S	18W
-2045	Nov 20	13:06:18	47507	3919	-50020	-7	T	-p	0.3958	2.1179	1.1453	309.3	194.0	54.2	16N	1W
-2044	May 15	14:56:26	47495	3917	-50014	-2	T-	pp	-0.1135	2.6824	1.6175	372.3	234.2	103.2	14S	28W
-2044	Nov 09	04:27:21	47483	3915	-50008	3	T-	p-	-0.2691	2.3585	1.3698	321.7	205.7	81.1	12N	129E
-2043	May 04	18:17:05	47471	3913	-50002	8	P	t-	0.6544	1.6707	0.6440	322.8	173.3	-	9S	78W
-2043	Oct 29	15:54:36	47459	3911	-49996	13	P	a-	-0.9909	1.0602	0.0199	270.6	32.7	-	7N	42W
-2042	Mar 25	20:47:10	47449	3909	-49991	-20	N	-a	-1.1849	0.6623	-0.2948	207.3	-	-	4N	111W
-2042	Apr 24	04:43:12	47447	3909	-49990	18	N	a-	1.3695	0.3317	-0.6416	155.3	-	-	5S	127E
-2042	Sep 19	01:44:13	47437	3907	-49985	-15	N	-t	1.2818	0.5556	-0.5425	222.4	-	-	8S	172E
-2041	Mar 15	13:36:44	47425	3905	-49979	-10	T	-a	-0.4563	1.9946	1.0466	303.9	189.6	31.8	9N	3W
-2041	Sep 08	01:29:03	47413	3903	-49973	-5	P	-t	0.5793	1.8349	0.7560	344.5	188.6	-	12S	176E
-2040	Mar 04	05:13:12	47402	3901	-49967	0	T	p-	0.2754	2.3438	1.3613	326.6	209.3	82.0	13N	124E
-2040	Aug 27	06:54:07	47390	3899	-49961	5	T-	p-	-0.1605	2.5749	1.5523	344.0	219.7	95.7	17S	95E
-2039	Feb 21	15:10:48	47378	3897	-49955	10	N	t-	1.0612	0.9315	-0.1095	262.7	-	-	17N	25W
-2039	Aug 16	19:31:21	47366	3895	-49949	15	P	a-	-0.8607	1.2636	0.2936	269.6	114.8	-	20S	95W
-2038	Jan 12	00:05:56	47356	3893	-49944	-18	N	-t	-1.1473	0.8018	-0.2950	260.8	-	-	23N	161W
-2038	Jul 08	03:55:43	47344	3891	-49938	-13	P	-a	1.0132	0.9775	0.0202	243.6	31.2	-	23S	137E
-2038	Aug 06	11:53:08	47342	3890	-49937	25	Nb	a-	-1.5305	0.0265	-0.9274	43.4	-	-	23S	19E
-2037	Jan 01	01:10:29	47332	3889	-49932	-8	T	-p	-0.4275	2.1071	1.0406	349.2	206.7	32.1	23N	179W
-2037	Jun 27	17:31:36	47320	3887	-49926	-3	T	-a	0.2904	2.3259	1.3243	336.4	213.1	80.4	23S	68W
-2037	Dec 21	09:01:16	47308	3884	-49920	2	T	p-	0.2910	2.3299	1.3184	331.6	209.0	78.3	23N	62E
-2036	Jun 16	00:19:31	47296	3882	-49914	7	P	t-	-0.4938	1.9780	0.9262	347.5	202.1	-	22S	171W
-2036	Dec 09	22:53:23	47284	3880	-49908	12	P	a-	0.9485	1.1045	0.1304	254.1	77.5	-	22N	147W
-2035	May 06	10:56:38	47275	3879	-49903	-21	Ne	-t	1.5597	0.0255	-1.0326	49.1	-	-	9S	32E
-2035	Jun 05	01:26:33	47273	3878	-49902	17	N	t-	-1.2636	0.5742	-0.4947	224.1	-	-	20S	172E
-2035	Oct 31	02:53:48	47263	3877	-49897	-16	N	-a	-1.1118	0.8184	-0.1825	232.5	-	-	7N	152E
-2034	Apr 25	16:04:51	47251	3874	-49891	-11	P	-t	0.7441	1.4986	0.4868	306.2	152.2	-	6S	44W
-2034	Oct 20	12:33:02	47239	3872	-49885	-6	P	-a	-0.4588	2.0446	0.9882	341.0	200.7	-	4N	7E
-2033	Apr 15	04:20:53	47227	3870	-49879	-1	T-	pp	-0.0493	2.7483	1.7865	325.7	215.2	100.1	3S	132E
-2033	Oct 09	14:57:03	47215	3868	-49873	4	T+	pp	0.2349	2.4769	1.3779	372.6	227.6	88.7	0S	28W
-2032	Apr 03	21:00:01	47203	3866	-49867	9	P	a-	-0.7796	1.3985	0.4560	273.7	137.9	-	1N	117W
-2032	Sep 27	14:06:25	47191	3864	-49861	14	P	t-	0.9158	1.2244	0.1315	305.8	87.4	-	4S	15W

-2031	Feb 23	03:59:03	47181	3862	-49856	-19	N	-a	1.0849	0.8674	-0.1327	243.0	-	-	17N	142E
-2031	Mar 24	13:26:43	47179	3862	-49855	19	Nb	a-	-1.5262	0.0411	-0.9261	55.4	-	-	4N	3W
-2031	Aug 18	04:54:01	47169	3860	-49850	-14	N	-a	-1.2149	0.6304	-0.3728	212.0	-	-	20S	124E
-2031	Sep 16	17:38:47	47167	3860	-49849	24	N	a-	1.5583	0.0201	-1.0221	41.5	-	-	8S	68W
-2030	Feb 12	11:45:20	47157	3858	-49844	-9	T	-t	0.3782	2.1937	1.1348	353.2	213.2	57.1	19N	25E
-2030	Aug 07	19:06:25	47146	3856	-49838	-4	T	-a	-0.4627	1.9884	1.0294	305.8	189.3	25.4	22S	90W
-2029	Feb 01	12:47:02	47134	3854	-49832	1	T	p-	-0.3472	2.2668	1.1758	368.4	220.7	65.6	21N	9E
-2029	Jul 28	11:46:51	47122	3852	-49826	6	T+	p-	0.2496	2.3778	1.4217	316.1	205.9	84.8	23S	19E
-2028	Jan 21	13:09:36	47110	3850	-49820	11	N	t-	-1.0422	0.9821	-0.0900	275.8	-	-	22N	2E
-2028	Jul 17	02:13:04	47098	3848	-49814	16	P	h-	1.0116	0.9989	0.0048	256.5	15.8	-	23S	162E
-2028	Dec 11	07:12:34	47088	3846	-49809	-17	N	-a	1.0839	0.8684	-0.1298	237.9	-	-	22N	87E
-2027	Jun 06	20:34:31	47076	3844	-49803	-12	P	-t	-0.9606	1.1259	0.0654	293.7	62.2	-	21S	115W
-2027	Nov 30	22:00:20	47064	3842	-49797	-7	T	-p	0.3945	2.1199	1.1483	309.2	194.1	54.7	19N	136W
-2026	May 26	21:13:40	47053	3840	-49791	-2	T-	pp	-0.2023	2.5191	1.4550	369.6	230.6	95.2	17S	125W
-2026	Nov 20	13:16:48	47041	3838	-49785	3	T-	p-	-0.2718	2.3545	1.3638	322.4	205.9	80.8	15N	5W
-2025	May 16	00:58:30	47029	3836	-49779	8	P	t-	0.5706	1.8226	0.7996	329.3	187.5	-	13S	179E
-2025	Nov 10	00:24:13	47017	3834	-49773	13	P	a-	-0.9948	1.0549	0.0109	271.1	24.3	-	11N	172W
-2024	Apr 05	04:17:26	47007	3832	-49768	-20	N	-a	-1.2452	0.5495	-0.4035	190.4	-	-	0S	133E
-2024	May 04	11:54:20	47005	3832	-49767	18	N	a-	1.2930	0.4702	-0.4993	181.7	-	-	9S	16E
-2024	Sep 29	09:25:09	46995	3830	-49762	-15	N	-t	1.3007	0.5226	-0.5789	216.6	-	-	3S	54E
-2023	Mar 25	21:17:30	46983	3828	-49756	-10	P	-a	-0.5161	1.8840	0.9375	299.9	183.2	-	5N	121W
-2023	Sep 18	09:11:36	46971	3826	-49750	-5	P	-t	0.6017	1.7943	0.7145	341.7	184.3	-	8S	58E
-2022	Mar 15	12:46:43	46959	3824	-49744	0	T+	p-	0.2199	2.4458	1.4631	329.5	212.9	89.6	9N	8E
-2022	Sep 07	14:53:28	46948	3822	-49738	5	T-	p-	-0.1329	2.6255	1.6031	343.4	219.9	97.4	13S	27W
-2021	Mar 04	22:26:06	46936	3820	-49732	10	Nx	t-	1.0114	1.0229	-0.0181	273.6	-	-	14N	136W
-2021	Aug 28	03:41:21	46924	3818	-49726	15	P	a-	-0.8267	1.3266	0.3556	273.8	125.0	-	17S	141E
-2020	Jan 23	07:34:14	46914	3816	-49721	-18	N	-t	-1.1760	0.7471	-0.3458	252.7	-	-	22N	86E
-2020	Jul 18	11:34:28	46902	3814	-49715	-13	N	-a	1.0719	0.8720	-0.0899	233.3	-	-	23S	21E
-2020	Aug 16	19:57:56	46900	3814	-49714	25	N	a-	-1.4937	0.0959	-0.8617	82.3	-	-	21S	103W
-2019	Jan 11	09:05:29	46890	3812	-49709	-8	T	-t	-0.4451	2.0718	1.0113	346.4	204.4	17.0	23N	62E
-2019	Jul 08	00:40:43	46878	3810	-49703	-3	T	-a	0.3593	2.2025	1.1949	335.0	208.5	65.3	24S	176W
-2019	Dec 31	17:27:56	46867	3808	-49697	2	T	p-	0.2802	2.3470	1.3408	330.6	209.3	80.2	24N	65W
-2018	Jun 27	06:54:50	46855	3806	-49691	7	T	t-	-0.4160	2.1231	1.0666	354.4	211.7	41.5	24S	89E
-2018	Dec 21	07:38:56	46843	3804	-49685	12	P	a-	0.9423	1.1146	0.1432	254.5	81.0	-	24N	80E
-2017	Jun 16	07:46:45	46831	3802	-49679	17	N	t-	-1.1790	0.7300	-0.3400	248.8	-	-	23S	75E
-2017	Nov 11	11:39:01	46821	3800	-49674	-16	N	-a	-1.1131	0.8176	-0.1864	233.1	-	-	12N	19E
-2016	May 05	22:55:26	46809	3798	-49668	-11	P	-t	0.8211	1.3551	0.3476	294.7	130.9	-	10S	150W
-2016	Oct 30	20:53:30	46797	3796	-49662	-6	P	-a	-0.4622	2.0406	0.9799	342.3	200.7	-	8N	120W
-2015	Apr 25	11:38:52	46786	3794	-49656	-1	T+	pp	0.0246	2.7917	1.8337	324.6	215.0	100.4	7S	20E
-2015	Oct 19	22:53:39	46774	3792	-49650	4	T+	pp	0.2267	2.4935	1.3914	373.7	228.2	89.8	4N	150W

-2014 Apr 15	04:29:39	46762	3790	-49644	9	P	a-	-0.7105	1.5246	0.5836	281.4	153.0	-	3S	128E
-2014 Oct 08	21:59:21	46750	3788	-49638	14	P	t-	0.9012	1.2517	0.1579	307.8	95.3	-	0N	136W
-2013 Mar 06	11:34:04	46740	3786	-49633	-19	N	a-	1.1392	0.7679	-0.2325	231.8	-	-	13N	26E
-2013 Apr 04	20:52:54	46738	3786	-49632	19	N	a-	-1.4675	0.1492	-0.8187	104.9	-	-	0N	117W
-2013 Aug 29	12:51:52	46728	3784	-49627	-14	N	a-	-1.2436	0.5778	-0.4254	203.3	-	-	17S	3E
-2013 Sep 28	01:46:52	46726	3783	-49626	24	N	a-	1.5376	0.0578	-0.9838	70.1	-	-	4S	167E
-2012 Feb 23	19:02:06	46717	3782	-49621	-9	T	t-	0.4280	2.1020	1.0437	351.0	208.7	33.5	16N	86W
-2012 Aug 18	03:11:03	46705	3780	-49615	-4	P	a-	-0.5011	1.9187	0.9580	303.0	184.7	-	19S	148E
-2011 Feb 11	19:58:20	46693	3778	-49609	1	T	p-	-0.3035	2.3452	1.2577	370.2	224.4	77.3	19N	100W
-2011 Aug 07	19:41:10	46681	3776	-49603	6	T+	p-	0.2032	2.4653	1.5047	318.4	208.2	89.9	21S	100W
-2010 Jan 31	20:42:27	46669	3774	-49597	11	Nx	t-	-1.0072	1.0431	-0.0228	281.3	-	-	21N	112W
-2010 Jul 28	09:42:26	46657	3772	-49591	16	P	h-	0.9610	1.0948	0.0944	267.0	69.4	-	22S	48E
-2010 Dec 22	15:48:39	46648	3770	-49586	-17	N	a-	1.0872	0.8600	-0.1337	236.1	-	-	24N	42W
-2009 Jun 18	03:00:52	46636	3768	-49580	-12	N	t-	-1.0437	0.9753	-0.0887	278.5	-	-	23S	146E
-2009 Dec 12	06:50:42	46624	3766	-49574	-7	T	-p	0.3968	2.1149	1.1448	308.9	193.9	54.1	22N	91E
-2008 Jun 06	03:34:28	46612	3764	-49568	-2	T	pp	-0.2886	2.3606	1.2969	365.9	225.1	81.7	20S	138E
-2008 Nov 30	22:04:15	46600	3762	-49562	3	T	p-	-0.2732	2.3528	1.3607	323.2	206.3	80.6	19N	138W
-2007 May 26	07:41:53	46588	3760	-49556	8	P	t-	0.4869	1.9746	0.9548	334.6	198.6	-	17S	76E
-2007 Nov 20	08:53:51	46577	3758	-49550	13	P	h-	-0.9996	1.0476	0.0006	271.4	5.7	-	15N	59E
-2006 Apr 16	11:41:35	46567	3756	-49545	-20	N	a-	-1.3110	0.4271	-0.5225	169.4	-	-	4S	19E
-2006 May 15	19:03:54	46565	3756	-49544	18	N	a-	1.2141	0.6134	-0.3529	203.9	-	-	13S	94W
-2006 Oct 10	17:15:06	46555	3754	-49539	-15	N	t-	1.3121	0.5031	-0.6012	213.1	-	-	1N	66W
-2005 Apr 06	04:51:04	46543	3752	-49533	-10	P	a-	-0.5819	1.7628	0.8173	295.0	174.8	-	0N	123E
-2005 Sep 29	17:03:55	46531	3750	-49527	-5	P	t-	0.6167	1.7669	0.6867	339.5	181.1	-	4S	62W
-2004 Mar 25	20:12:35	46519	3748	-49521	0	T+	pp	0.1587	2.5584	1.5750	332.3	216.1	95.6	5N	106W
-2004 Sep 17	23:02:53	46508	3746	-49515	5	T-	p-	-0.1127	2.6624	1.6402	342.7	219.8	98.3	9S	152W
-2003 Mar 15	05:32:17	46496	3744	-49509	10	P	t-	0.9548	1.1268	0.0857	284.9	69.1	-	10N	115E
-2003 Sep 07	11:59:34	46484	3742	-49503	15	P	a-	-0.7990	1.3779	0.4056	276.9	132.2	-	13S	15E
-2002 Feb 02	14:55:08	46474	3740	-49498	-18	N	t-	-1.2107	0.6812	-0.4073	242.4	-	-	20N	26W
-2002 Jul 29	19:18:48	46462	3738	-49492	-13	N	a-	1.1254	0.7763	-0.1906	223.1	-	-	22S	96W
-2002 Aug 28	04:10:13	46460	3737	-49491	25	N	a-	-1.4633	0.1537	-0.8078	103.8	-	-	18S	132E
-2001 Jan 22	16:53:31	46451	3736	-49486	-8	P	t-	-0.4690	2.0247	0.9705	343.0	201.3	-	22N	56W
-2001 Jul 19	07:55:56	46439	3734	-49480	-3	T	a-	0.4221	2.0905	1.0766	333.3	203.1	42.6	23S	74E
-2000 Jan 12	01:49:07	46427	3732	-49474	2	T+	p-	0.2644	2.3732	1.3725	329.7	209.8	82.8	24N	169E
-2000 Jul 07	13:35:04	46415	3730	-49468	7	T	t-	-0.3428	2.2599	1.1986	360.1	219.1	68.7	24S	12W
-2000 Dec 31	16:19:19	46404	3728	-49462	12	P	a-	0.9318	1.1324	0.1640	255.7	86.3	-	25N	50W

2ND MILLENNIUM BCE

In the 2nd millennium BCE the total number of lunar eclipses was 2 431 lunar eclipses: 900 penumbral lunar eclipses, 859 partial lunar eclipses, 672 total lunar eclipses (435 central total lunar eclipses, 237 non-central total lunar eclipses).

20TH CENTURY BCE

In the 20th century BCE the total number of lunar eclipses was 242 lunar eclipses: 88 penumbral lunar eclipses, 92 partial lunar eclipses, 62 total lunar eclipses (49 central total lunar eclipses, 13 non-central total lunar eclipses).

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG
GREATEST															
ECLIPSE															
-1999 Jun 26	14:12:34	46392	3726	-49456	17	N	t-	-1.0984	0.8786	-0.1927	268.8	-	-	24S	22W
-1999 Nov 21	20:23:00	46382	3724	-49451	-16	N	-a	-1.1153	0.8148	-0.1916	233.5	-	-	15N	114W
-1998 May 17	05:46:39	46370	3722	-49445	-11	P	-t	0.8986	1.2111	0.2075	281.9	102.9	-	13S	105E
-1998 Nov 11	05:14:53	46358	3720	-49439	-6	P	-a	-0.4641	2.0388	0.9746	343.5	200.9	-	12N	113E
-1997 May 06	18:55:55	46346	3718	-49433	-1	T+	pp	0.1000	2.6517	1.6967	322.9	213.6	98.3	11S	92W
-1997 Oct 31	06:52:59	46335	3716	-49427	4	T+	pp	0.2210	2.5051	1.4008	374.5	228.7	90.5	9N	88E
-1996 Apr 25	11:56:16	46323	3714	-49421	9	P	a-	-0.6387	1.6559	0.7156	288.7	166.0	-	7S	13E
-1996 Oct 19	05:59:25	46311	3712	-49415	14	P	t-	0.8919	1.2688	0.1750	308.8	99.9	-	5N	101E
-1995 Mar 16	18:58:27	46301	3710	-49410	-19	N	-a	1.2012	0.6544	-0.3466	217.2	-	-	9N	87W
-1995 Apr 15	04:11:21	46299	3710	-49409	19	N	a-	-1.4031	0.2679	-0.7012	139.5	-	-	4S	130E

-1995 Sep 08	21:00:02	46290	3708	-49404	-14	N	-a	-1.2649	0.5387	-0.4646	196.5	-	-	13S	121W
-1995 Oct 08	10:04:19	46288	3708	-49403	24	N	a-	1.5234	0.0833	-0.9575	83.6	-	-	1N	40E
-1994 Mar 06	02:06:49	46278	3706	-49398	-9	P	-t	0.4869	1.9937	0.9360	347.7	202.2	-	13N	166E
-1994 Aug 29	11:24:55	46266	3704	-49392	-4	P	-a	-0.5324	1.8622	0.8995	300.5	180.6	-	16S	23E
-1993 Feb 23	02:58:39	46254	3702	-49386	1	T-	pp	-0.2506	2.4405	1.3567	371.9	228.2	87.6	16N	153E
-1993 Aug 19	03:44:03	46242	3700	-49380	6	T+	p-	0.1641	2.5393	1.5741	320.3	209.9	93.2	19S	137E
-1992 Feb 12	04:08:24	46231	3698	-49374	11	P	t-	-0.9655	1.1165	0.0569	287.5	57.1	-	18N	135E
-1992 Aug 07	17:17:14	46219	3696	-49368	16	P	h-	0.9156	1.1815	0.1746	276.1	93.6	-	20S	67W
-1991 Jan 02	00:21:32	46209	3694	-49363	-17	N	-a	1.0939	0.8453	-0.1438	233.7	-	-	25N	171W
-1991 Jun 28	09:29:50	46197	3692	-49357	-12	N	-t	-1.1239	0.8300	-0.2378	261.4	-	-	24S	48E
-1991 Dec 22	15:37:36	46186	3690	-49351	-7	T	-p	0.4019	2.1046	1.1364	308.4	193.6	52.7	23N	42W
-1990 Jun 17	09:59:01	46174	3688	-49345	-2	T	-t	-0.3721	2.2072	1.1437	361.0	217.8	59.9	22S	40E
-1990 Dec 12	06:48:35	46162	3686	-49339	3	T-	p-	-0.2725	2.3546	1.3615	324.1	206.7	80.9	21N	90E
-1989 Jun 06	14:30:21	46150	3684	-49333	8	T	h-	0.4063	2.1211	1.1040	338.5	207.0	49.8	19S	28W
-1989 Dec 01	17:20:08	46138	3682	-49327	13	Nx	h-	-1.0025	1.0435	-0.0059	271.9	-	-	18N	69W
-1988 Apr 26	19:05:22	46129	3680	-49322	-20	N	-a	-1.3775	0.3037	-0.6430	144.2	-	-	9S	95W
-1988 May 26	02:17:18	46127	3680	-49321	18	N	a-	1.1373	0.7530	-0.2107	222.0	-	-	16S	156E
-1988 Oct 21	01:09:33	46117	3678	-49316	-15	N	-t	1.3198	0.4900	-0.6163	210.8	-	-	6N	173E
-1987 Apr 16	12:19:41	46105	3676	-49310	-10	P	-a	-0.6515	1.6348	0.6898	289.0	164.2	-	4S	8E
-1987 Oct 10	01:03:59	46093	3674	-49304	-5	P	-t	0.6260	1.7498	0.6697	337.8	178.9	-	1N	175E
-1986 Apr 06	03:30:09	46082	3672	-49298	0	T+	pp	0.0913	2.6826	1.6980	334.7	218.5	99.9	1N	141E
-1986 Sep 29	07:21:08	46070	3670	-49292	5	T-	p-	-0.0991	2.6870	1.6655	341.7	219.4	98.8	5S	82E
-1985 Mar 26	12:27:44	46058	3668	-49286	10	P	t-	0.8903	1.2455	0.2038	296.6	105.2	-	6N	8E
-1985 Sep 18	20:27:14	46046	3666	-49280	15	P	a-	-0.7789	1.4154	0.4421	279.0	137.0	-	9S	114W
-1984 Feb 13	22:06:02	46037	3664	-49275	-18	N	-t	-1.2532	0.6009	-0.4829	229.0	-	-	18N	135W
-1984 Aug 09	03:10:10	46025	3662	-49269	-13	N	-a	1.1725	0.6926	-0.2796	213.2	-	-	20S	145E
-1984 Sep 07	12:30:22	46023	3662	-49268	25	N	a-	-1.4396	0.1992	-0.7662	117.9	-	-	14S	5E
-1983 Feb 02	00:34:00	46013	3660	-49263	-8	P	-t	-0.4999	1.9647	0.9170	338.9	197.0	-	21N	172W
-1983 Jul 29	15:16:32	46001	3658	-49257	-3	P	-a	0.4791	1.9893	0.9688	331.3	197.2	-	22S	38W
-1982 Jan 22	10:02:23	45990	3656	-49251	2	T+	p-	0.2412	2.4127	1.4180	329.0	210.7	86.1	23N	45E
-1982 Jul 18	20:20:47	45978	3654	-49245	7	T	pp	-0.2746	2.3877	1.3211	364.7	224.6	83.7	24S	114W
-1981 Jan 12	00:53:17	45966	3652	-49239	12	P	a-	0.9161	1.1595	0.1944	257.6	93.5	-	25N	179W
-1981 Jul 07	20:45:09	45954	3650	-49233	17	Nx	t-	-1.0222	1.0191	-0.0537	285.2	-	-	25S	122W
-1981 Dec 03	05:05:08	45945	3649	-49228	-16	N	-a	-1.1185	0.8099	-0.1984	233.7	-	-	18N	114E
-1980 May 27	12:40:58	45933	3647	-49222	-11	P	-t	0.9743	1.0705	0.0702	267.9	60.8	-	17S	1W
-1980 Nov 21	13:36:31	45921	3645	-49216	-6	P	-a	-0.4651	2.0384	0.9714	344.7	201.2	-	16N	14W
-1979 May 17	02:12:07	45909	3643	-49210	-1	T+	pp	0.1768	2.5096	1.5571	320.5	211.0	93.3	14S	156E
-1979 Nov 10	14:55:30	45898	3641	-49204	4	T+	pp	0.2181	2.5111	1.4053	375.1	229.0	90.9	13N	35W
-1978 May 06	19:20:05	45886	3639	-49198	9	P	a-	-0.5649	1.7913	0.8511	295.3	177.0	-	11S	100W

-1978 Oct 30	14:04:08	45874	3637	-49192	14	P	t-	0.8857	1.2799	0.1867	309.2	102.9	-	9N	22W
-1977 Mar 28	02:14:49	45864	3635	-49187	-19	N	-a	1.2688	0.5309	-0.4711	198.7	-	-	5N	161E
-1977 Apr 26	11:25:46	45862	3635	-49186	19	N	a-	-1.3361	0.3918	-0.5791	167.3	-	-	8S	19E
-1977 Sep 20	05:17:19	45853	3633	-49181	-14	N	-a	-1.2798	0.5113	-0.4919	191.3	-	-	9S	113E
-1977 Oct 19	18:27:50	45851	3633	-49180	24	N	a-	1.5136	0.1006	-0.9387	91.5	-	-	5N	88W
-1976 Mar 16	09:03:34	45841	3631	-49175	-9	P	-t	0.5516	1.8748	0.8174	343.3	193.5	-	9N	59E
-1976 Sep 08	19:46:18	45829	3629	-49169	-4	P	-a	-0.5579	1.8165	0.8519	298.4	177.0	-	13S	105W
-1975 Mar 05	09:51:07	45818	3627	-49163	1	T-	pp	-0.1910	2.5479	1.4678	373.4	231.5	95.9	12N	48E
-1975 Aug 29	11:54:24	45806	3625	-49157	6	T+	p-	0.1316	2.6015	1.6314	321.9	211.0	95.3	15S	13E
-1974 Feb 22	11:24:34	45794	3623	-49151	11	P	t-	-0.9148	1.2063	0.1531	294.7	92.1	-	15N	24E
-1974 Aug 19	01:00:31	45782	3621	-49145	16	P	h-	0.8778	1.2543	0.2406	283.6	109.2	-	18S	176E
-1973 Jan 13	08:46:29	45773	3619	-49140	-17	N	-a	1.1079	0.8172	-0.1668	229.6	-	-	25N	62E
-1973 Jul 09	16:05:47	45761	3617	-49134	-12	N	-t	-1.1976	0.6968	-0.3750	243.3	-	-	25S	52W
-1972 Jan 03	00:17:16	45749	3615	-49128	-7	T	-p	0.4131	2.0828	1.1167	307.6	192.7	49.1	24N	172W
-1972 Jun 27	16:30:37	45737	3613	-49122	-2	P	-t	-0.4504	2.0637	1.0000	355.4	209.0	-	24S	59W
-1972 Dec 22	15:27:46	45726	3611	-49116	3	T-	p-	-0.2680	2.3629	1.3693	325.0	207.5	81.7	23N	41W
-1971 Jun 16	21:22:15	45714	3609	-49110	8	T	a-	0.3273	2.2650	1.2499	341.4	213.2	73.4	22S	133W
-1971 Dec 12	01:43:20	45702	3607	-49104	13	Nx	h-	-1.0036	1.0423	-0.0087	272.7	-	-	21N	164E
-1970 May 08	02:25:34	45693	3605	-49099	-20	N	-a	-1.4473	0.1745	-0.7701	110.4	-	-	13S	152E
-1970 Jun 06	09:31:58	45691	3605	-49098	18	N	a-	1.0604	0.8930	-0.0688	237.6	-	-	19S	45E
-1970 Nov 01	09:08:52	45681	3603	-49093	-15	N	-t	1.3234	0.4840	-0.6235	209.7	-	-	10N	51E
-1969 Apr 27	19:43:33	45669	3601	-49087	-10	P	-a	-0.7248	1.5005	0.5552	281.9	150.7	-	8S	106W
-1969 Oct 21	09:11:44	45657	3599	-49081	-5	P	-t	0.6299	1.7423	0.6629	336.5	177.8	-	5N	51E
-1968 Apr 16	10:41:36	45646	3597	-49075	0	T+	pp	0.0198	2.8147	1.8283	336.6	220.1	102.0	3S	30E
-1968 Oct 09	15:46:43	45634	3595	-49069	5	T-	p-	-0.0908	2.7018	1.6811	340.7	218.9	98.9	0S	47W
-1967 Apr 05	19:15:56	45622	3593	-49063	10	P	t-	0.8205	1.3739	0.3314	308.0	132.1	-	1N	97W
-1967 Sep 29	05:02:10	45611	3591	-49057	15	P	a-	-0.7648	1.4419	0.4675	280.4	140.1	-	5S	115E
-1966 Feb 24	05:07:55	45601	3590	-49052	-18	N	-t	-1.3027	0.5076	-0.5715	211.8	-	-	14N	118E
-1966 Aug 20	11:08:52	45589	3588	-49046	-13	N	-a	1.2130	0.6212	-0.3566	204.1	-	-	17S	23E
-1966 Sep 18	20:58:07	45587	3587	-49045	25	N	a-	-1.4225	0.2324	-0.7369	127.1	-	-	10S	124W
-1965 Feb 13	08:07:15	45578	3586	-49040	-8	P	-t	-0.5373	1.8928	0.8518	334.1	191.6	-	18N	73E
-1965 Aug 09	22:44:04	45566	3584	-49034	-3	P	-a	0.5293	1.9005	0.8733	329.3	191.1	-	20S	151W
-1964 Feb 02	18:09:02	45554	3582	-49028	2	T+	p-	0.2120	2.4633	1.4745	328.4	211.8	89.6	21N	78W
-1964 Jul 29	03:14:07	45542	3580	-49022	7	T-	pp	-0.2133	2.5028	1.4310	368.3	228.6	92.9	23S	141E
-1963 Jan 22	09:19:57	45531	3578	-49016	12	P	a-	0.8945	1.1975	0.2358	260.4	102.4	-	24N	54E
-1963 Jul 18	03:25:10	45519	3576	-49010	17	P	t-	-0.9516	1.1497	0.0750	298.6	66.9	-	25S	137E
-1963 Dec 13	13:42:57	45509	3574	-49005	-16	N	-a	-1.1245	0.7996	-0.2101	233.2	-	-	21N	16W
-1962 Jun 07	19:39:17	45498	3572	-48999	-11	N	-t	1.0472	0.9354	-0.0623	253.0	-	-	19S	108W
-1962 Dec 02	21:54:01	45486	3570	-48993	-6	P	-a	-0.4684	2.0333	0.9643	345.7	201.3	-	19N	140W
-1961 May 28	09:30:44	45474	3568	-48987	-1	T+	-p	0.2519	2.3709	1.4201	317.5	207.2	85.3	17S	44E

-1961	Nov 21	22:57:38	45463	3566	-48981	4	T+	pp	0.2157	2.5159	1.4095	375.5	229.3	91.3	16N	157W
-1960	May 17	02:42:36	45451	3564	-48975	9	P	a-	-0.4901	1.9288	0.9881	301.2	186.4	-	15S	146E
-1960	Nov 09	22:12:17	45439	3562	-48969	14	P	t-	0.8819	1.2861	0.1945	309.0	104.7	-	13N	146W
-1959	Apr 07	09:22:34	45430	3560	-48964	-19	N	a-	1.3420	0.3973	-0.6062	174.8	-	-	1N	51E
-1959	May 06	18:35:17	45428	3560	-48963	19	N	a-	-1.2660	0.5217	-0.4516	191.4	-	-	12S	92W
-1959	Sep 30	13:43:52	45418	3558	-48958	-14	N	a-	-1.2882	0.4958	-0.5071	188.1	-	-	5S	16W
-1959	Oct 30	02:57:38	45416	3558	-48957	24	N	a-	1.5079	0.1101	-0.9273	95.3	-	-	10N	142E
-1958	Mar 27	15:48:32	45406	3556	-48952	-9	P	t-	0.6250	1.7401	0.6829	337.2	181.5	-	5N	45W
-1958	Sep 20	04:17:01	45395	3554	-48946	-4	P	a-	-0.5759	1.7845	0.8179	296.9	174.3	-	8S	125E
-1957	Mar 16	16:34:15	45383	3552	-48940	1	T-	pp	-0.1236	2.6696	1.5932	374.3	234.1	102.2	8N	56W
-1957	Sep 09	20:12:32	45371	3550	-48934	6	T+	pp	0.1060	2.6507	1.6759	323.3	211.9	96.6	12S	113W
-1956	Mar 04	18:34:49	45360	3548	-48928	11	P	t-	-0.8583	1.3068	0.2600	301.9	117.8	-	12N	85W
-1956	Aug 29	08:50:41	45348	3546	-48922	16	P	h-	0.8465	1.3150	0.2947	289.8	120.3	-	15S	57E
-1955	Jan 23	17:05:55	45338	3545	-48917	-17	N	a-	1.1267	0.7799	-0.1989	224.4	-	-	24N	63W
-1955	Feb 22	03:18:37	45336	3544	-48916	21	N	a-	-1.5329	0.0425	-0.9519	57.7	-	-	15N	144E
-1955	Jul 19	22:46:07	45327	3543	-48911	-12	N	t-	-1.2669	0.5718	-0.5042	223.6	-	-	25S	153W
-1954	Jan 13	08:51:34	45315	3541	-48905	-7	T	a-	0.4289	2.0527	1.0890	306.6	191.3	43.2	24N	59E
-1954	Jul 08	23:09:10	45303	3539	-48899	-2	P	t-	-0.5234	1.9300	0.8656	349.3	199.0	-	24S	160W
-1953	Jan 02	23:59:58	45292	3537	-48893	3	T-	p-	-0.2585	2.3806	1.3868	326.2	208.5	83.3	24N	170W
-1953	Jun 28	04:22:20	45280	3535	-48887	8	T+	p-	0.2539	2.3988	1.3854	343.1	217.5	86.5	23S	121E
-1953	Dec 23	10:00:15	45268	3533	-48881	13	Nx	h-	-1.0002	1.0492	-0.0031	274.3	-	-	22N	39E
-1952	May 18	09:47:06	45259	3531	-48876	-20	Ne	a-	-1.5162	0.0473	-0.8958	58.1	-	-	16S	39E
-1952	Jun 16	16:51:42	45257	3531	-48875	18	P	a-	0.9870	1.0271	0.0665	250.4	56.8	-	21S	67W
-1952	Nov 11	17:09:10	45247	3529	-48870	-15	N	t-	1.3261	0.4793	-0.6285	208.7	-	-	14N	71W
-1951	May 08	03:05:16	45235	3527	-48864	-10	P	a-	-0.7995	1.3638	0.4176	273.6	133.7	-	12S	140E
-1951	Oct 31	17:23:45	45224	3525	-48858	-5	P	t-	0.6306	1.7402	0.6623	335.4	177.3	-	9N	75W
-1950	Apr 27	17:46:25	45212	3523	-48852	0	T-	p-	-0.0560	2.7494	1.7608	337.8	220.5	101.6	8S	79W
-1950	Oct 21	00:18:51	45200	3521	-48846	5	T-	p-	-0.0873	2.7075	1.6882	339.6	218.4	98.8	4N	178W
-1949	Apr 17	01:56:24	45189	3519	-48840	10	P	t-	0.7453	1.5126	0.4687	319.1	154.3	-	3S	160E
-1949	Oct 10	13:43:26	45177	3517	-48834	15	P	a-	-0.7558	1.4587	0.4837	281.1	142.0	-	1S	18W
-1948	Mar 06	12:00:56	45167	3516	-48829	-18	N	t-	-1.3591	0.4017	-0.6726	189.8	-	-	11N	12E
-1948	Apr 05	03:36:43	45165	3515	-48828	20	N	t-	1.5198	0.1058	-0.9665	100.6	-	-	2N	136E
-1948	Aug 30	19:15:48	45156	3514	-48823	-13	N	a-	1.2460	0.5634	-0.4200	196.2	-	-	14S	100W
-1948	Sep 29	05:33:17	45154	3513	-48822	25	N	a-	-1.4119	0.2537	-0.7193	132.8	-	-	6S	105E
-1947	Feb 23	15:31:49	45144	3512	-48817	-8	P	t-	-0.5826	1.8062	0.7720	328.4	184.4	-	15N	40W
-1947	Aug 20	06:18:34	45132	3510	-48811	-3	P	a-	0.5727	1.8244	0.7903	327.5	185.0	-	18S	94E
-1946	Feb 13	02:07:20	45121	3508	-48805	2	T+	p-	0.1752	2.5279	1.5451	327.9	212.9	93.2	19N	161E
-1946	Aug 09	10:15:28	45109	3506	-48799	7	T-	pp	-0.1592	2.6048	1.5276	371.1	231.2	98.6	21S	35E
-1945	Feb 02	17:38:07	45098	3504	-48793	12	P	a-	0.8660	1.2479	0.2896	264.0	112.6	-	22N	72W
-1945	Jul 29	10:15:01	45086	3502	-48787	17	P	t-	-0.8882	1.2669	0.1903	309.2	104.6	-	24S	34E

-1945	Dec 24	22:16:19	45076	3500	-48782	-16	N	-a	-1.1332	0.7841	-0.2266	232.0	-	-	22N	145W
-1944	Jun 18	02:42:06	45065	3498	-48776	-11	N	-h	1.1172	0.8059	-0.1897	237.0	-	-	21S	145E
-1944	Dec 13	06:08:37	45053	3496	-48770	-6	P	-a	-0.4734	2.0249	0.9546	346.4	201.2	-	21N	95E
-1943	Jun 07	16:51:20	45041	3494	-48764	-1	T	-p	0.3257	2.2350	1.2853	313.8	202.3	73.6	20S	68W
-1943	Dec 02	06:58:19	45030	3492	-48758	4	T+	pp	0.2118	2.5228	1.4168	375.8	229.6	91.9	20N	82E
-1942	May 28	10:04:46	45018	3490	-48752	9	T	a-	-0.4152	2.0670	1.1249	306.3	194.1	51.0	18S	34E
-1942	Nov 21	06:21:54	45006	3488	-48746	14	P	h-	0.8785	1.2912	0.2018	308.6	106.3	-	17N	90E
-1941	Apr 18	16:24:35	44997	3487	-48741	-19	N	-h	1.4189	0.2574	-0.7481	143.1	-	-	3S	58W
-1941	May 18	01:43:22	44995	3486	-48740	19	N	h-	-1.1950	0.6534	-0.3230	212.3	-	-	16S	159E
-1941	Oct 11	22:16:08	44985	3485	-48735	-14	N	-a	-1.2929	0.4868	-0.5154	186.1	-	-	0S	147W
-1941	Nov 10	11:29:03	44983	3484	-48734	24	N	a-	1.5027	0.1182	-0.9165	98.3	-	-	14N	12E
-1940	Apr 06	22:27:26	44974	3483	-48729	-9	P	-t	0.7025	1.5979	0.5406	329.6	165.7	-	1N	148W
-1940	Sep 30	12:54:13	44962	3481	-48723	-4	P	-a	-0.5888	1.7617	0.7933	295.7	172.2	-	4S	6W
-1939	Mar 26	23:09:32	44950	3479	-48717	1	T-	pp	-0.0496	2.8037	1.7309	374.6	235.6	105.7	4N	157W
-1939	Sep 20	04:37:44	44939	3477	-48711	6	T+	pp	0.0868	2.6883	1.7088	324.7	212.5	97.4	8S	118E
-1938	Mar 16	01:36:44	44927	3475	-48705	11	P	t-	-0.7939	1.4217	0.3812	309.4	139.6	-	8N	167E
-1938	Sep 09	16:48:47	44916	3473	-48699	16	P	h-	0.8224	1.3626	0.3358	294.8	128.1	-	11S	65W
-1937	Feb 04	01:15:37	44906	3471	-48694	-17	N	-a	1.1543	0.7267	-0.2469	217.1	-	-	22N	173E
-1937	Mar 05	10:55:27	44904	3471	-48693	21	N	a-	-1.4794	0.1376	-0.8505	102.6	-	-	11N	27E
-1937	Jul 31	05:36:14	44894	3469	-48688	-12	N	-t	-1.3279	0.4620	-0.6183	203.5	-	-	24S	103E
-1936	Jan 24	17:17:23	44883	3467	-48682	-7	T	-a	0.4519	2.0092	1.0480	305.1	189.3	32.1	23N	68W
-1936	Jul 19	05:55:46	44871	3465	-48676	-2	P	-t	-0.5905	1.8073	0.7421	342.7	187.9	-	24S	97E
-1935	Jan 13	08:24:38	44859	3463	-48670	3	T-	p-	-0.2431	2.4088	1.4150	327.6	209.9	85.6	23N	64E
-1935	Jul 08	11:28:54	44848	3461	-48664	8	T+	p-	0.1846	2.5254	1.5133	343.9	220.1	94.5	24S	13E
-1934	Jan 02	18:09:32	44836	3459	-48658	13	P	h-	-0.9915	1.0655	0.0126	276.9	26.5	-	23N	84W
-1934	Jun 28	00:15:52	44825	3457	-48652	18	P	a-	0.9164	1.1563	0.1963	261.3	95.5	-	22S	179W
-1934	Nov 23	01:11:07	44815	3456	-48647	-15	N	-t	1.3274	0.4765	-0.6308	208.1	-	-	18N	167E
-1933	May 19	10:24:57	44803	3454	-48641	-10	P	-a	-0.8753	1.2256	0.2778	264.1	111.5	-	16S	28E
-1933	Nov 12	01:39:03	44792	3452	-48635	-5	P	-t	0.6294	1.7413	0.6656	334.5	177.2	-	14N	160E
-1932	May 08	00:47:55	44780	3450	-48629	0	T-	pp	-0.1337	2.6083	1.6168	338.2	219.6	98.3	12S	173E
-1932	Oct 31	08:56:02	44769	3448	-48623	5	T-	p-	-0.0873	2.7066	1.6891	338.4	217.8	98.6	9N	51E
-1931	Apr 27	08:30:23	44757	3446	-48617	10	P	t-	0.6654	1.6599	0.6145	329.5	173.0	-	7S	59E
-1931	Oct 20	22:30:24	44746	3444	-48611	15	P	a-	-0.7513	1.4671	0.4916	281.3	142.8	-	4N	152W
-1930	Mar 17	18:46:39	44736	3442	-48606	-18	N	-t	-1.4214	0.2850	-0.7846	161.2	-	-	7N	92W
-1930	Apr 16	09:59:59	44734	3442	-48605	20	N	t-	1.4404	0.2506	-0.8198	152.7	-	-	2S	37E
-1930	Sep 11	03:29:45	44724	3440	-48600	-13	N	-a	1.2728	0.5170	-0.4719	189.5	-	-	10S	134E
-1930	Oct 10	14:13:40	44722	3440	-48599	25	N	a-	-1.4060	0.2662	-0.7101	136.2	-	-	1S	28W
-1929	Mar 06	22:50:04	44713	3438	-48594	-8	P	-t	-0.6339	1.7088	0.6812	321.7	175.3	-	11N	152W
-1929	Aug 31	14:01:08	44701	3436	-48588	-3	P	-a	0.6084	1.7622	0.7215	326.0	179.4	-	14S	23W
-1928	Feb 24	09:59:26	44689	3434	-48582	2	T+	p-	0.1326	2.6031	1.6261	327.4	213.9	96.3	16N	41E

-1928	Aug 19	17:24:23	44678	3432	-48576	7	T-	pp	-0.1118	2.6944	1.6120	373.2	233.0	102.1	18S	74W
-1927	Feb 13	01:48:39	44666	3431	-48570	12	P	a-	0.8314	1.3098	0.3548	268.3	123.4	-	19N	164E
-1927	Aug 08	17:14:40	44655	3429	-48564	17	P	t-	-0.8324	1.3703	0.2917	317.6	127.4	-	22S	72W
-1926	Jan 04	06:41:01	44645	3427	-48559	-16	N	a-	-1.1485	0.7563	-0.2549	229.2	-	-	23N	88E
-1926	Feb 02	17:47:30	44643	3427	-48558	22	N	a-	1.5409	0.0195	-0.9582	38.2	-	-	23N	76W
-1926	Jun 29	09:52:11	44634	3425	-48553	-11	N	-h	1.1820	0.6862	-0.3078	220.5	-	-	22S	36E
-1926	Jul 28	21:01:21	44632	3425	-48552	27	N	h-	-1.5165	0.0908	-0.9396	88.0	-	-	24S	129W
-1926	Dec 24	14:15:33	44622	3423	-48547	-6	P	-h	-0.4836	2.0065	0.9355	346.6	200.4	-	23N	27W
-1925	Jun 19	00:16:45	44610	3421	-48541	-1	T	-p	0.3960	2.1059	1.1565	309.7	196.5	56.8	22S	179E
-1925	Dec 13	14:54:19	44599	3419	-48535	4	T+	pp	0.2044	2.5358	1.4309	376.1	230.1	92.9	22N	38W
-1924	Jun 07	17:28:31	44587	3417	-48529	9	T	p-	-0.3419	2.2025	1.2584	310.7	200.2	70.4	21S	79W
-1924	Dec 01	14:31:30	44576	3415	-48523	14	P	h-	0.8745	1.2969	0.2107	308.2	108.2	-	20N	34W
-1923	Apr 28	23:18:30	44566	3414	-48518	-19	Ne	-h	1.5007	0.1085	-0.8995	94.6	-	-	7S	164W
-1923	May 28	08:47:45	44564	3413	-48517	19	N	h-	-1.1220	0.7894	-0.1908	231.1	-	-	19S	51E
-1923	Oct 22	06:55:41	44555	3412	-48512	-14	N	a-	-1.2925	0.4870	-0.5142	185.6	-	-	4N	81E
-1923	Nov 20	20:03:43	44553	3411	-48511	24	N	a-	1.4996	0.1224	-0.9091	99.6	-	-	17N	118W
-1922	Apr 18	04:57:28	44543	3410	-48506	-9	P	-t	0.7859	1.4451	0.3872	319.9	143.9	-	3S	112E
-1922	Oct 11	21:38:19	44531	3408	-48500	-4	P	-a	-0.5962	1.7489	0.7790	295.1	171.0	-	0N	140W
-1921	Apr 07	05:38:23	44520	3406	-48494	1	T+	pp	0.0298	2.8383	1.7687	374.0	235.7	106.2	0N	103E
-1921	Oct 01	13:10:06	44508	3404	-48488	6	T+	pp	0.0743	2.7136	1.7296	325.9	213.0	97.9	3S	12W
-1920	Mar 26	08:34:20	44497	3402	-48482	11	P	t-	-0.7249	1.5453	0.5108	316.4	157.9	-	4N	59E
-1920	Sep 20	00:52:52	44485	3400	-48476	16	P	h-	0.8040	1.3995	0.3664	298.9	133.5	-	7S	172E
-1919	Feb 14	09:19:45	44476	3398	-48471	-17	N	a-	1.1870	0.6641	-0.3042	208.2	-	-	19N	51E
-1919	Mar 15	18:27:32	44474	3398	-48470	21	N	a-	-1.4211	0.2414	-0.7407	134.0	-	-	7N	88W
-1919	Aug 10	12:33:25	44464	3396	-48465	-12	N	-t	-1.3827	0.3636	-0.7211	182.5	-	-	22S	2W
-1919	Sep 09	05:35:30	44462	3396	-48464	26	N	t-	1.5636	0.0303	-1.0515	53.6	-	-	11S	101E
-1918	Feb 04	01:35:03	44452	3394	-48459	-7	P	-a	0.4817	1.9533	0.9945	303.1	186.3	-	21N	166E
-1918	Jul 30	12:52:14	44441	3392	-48453	-2	P	-t	-0.6501	1.6986	0.6325	336.1	176.3	-	23S	8W
-1917	Jan 24	16:40:38	44429	3390	-48447	3	T-	p-	-0.2211	2.4490	1.4555	329.2	211.6	88.5	22N	61W
-1917	Jul 19	18:45:00	44418	3388	-48441	8	T+	pp	0.1223	2.6393	1.6280	344.0	221.5	99.1	24S	97W
-1916	Jan 14	02:09:45	44406	3387	-48435	13	P	t-	-0.9762	1.0936	0.0405	280.5	47.5	-	23N	155E
-1916	Jul 08	07:47:31	44395	3385	-48429	18	P	a-	0.8514	1.2756	0.3157	270.2	118.8	-	23S	67E
-1916	Dec 03	09:10:29	44385	3383	-48424	-15	N	-t	1.3307	0.4698	-0.6361	206.6	-	-	21N	46E
-1915	May 29	17:43:48	44374	3381	-48418	-10	P	-a	-0.9511	1.0876	0.1375	253.2	80.1	-	19S	84W
-1915	Nov 22	09:55:32	44362	3379	-48412	-5	P	-t	0.6279	1.7425	0.6698	333.4	177.2	-	17N	34E
-1914	May 19	07:46:03	44351	3377	-48406	0	T-	-p	-0.2133	2.4642	1.4691	337.9	217.2	91.5	15S	66E
-1914	Nov 11	17:35:19	44339	3375	-48400	5	T-	p-	-0.0883	2.7035	1.6886	337.2	217.3	98.4	13N	81W
-1913	May 08	15:00:15	44328	3373	-48394	10	P	t-	0.5828	1.8126	0.7650	339.0	188.8	-	11S	42W
-1913	Nov 01	07:21:26	44316	3371	-48388	15	P	a-	-0.7499	1.4696	0.4942	281.2	143.0	-	8N	73E
-1912	Mar 28	01:25:19	44306	3370	-48383	-18	N	-t	-1.4891	0.1586	-0.9065	121.3	-	-	3N	166E

-1912 Apr 26	16:18:41	44304	3369	-48382	20	N	t-	1.3568	0.4033	-0.6656	190.9	-	-	6S	60W
-1912 Sep 21	11:51:00	44295	3368	-48377	-13	N	-a	1.2931	0.4825	-0.5118	184.3	-	-	6S	7E
-1912 Oct 20	22:59:21	44293	3367	-48376	25	N	a-	-1.4049	0.2698	-0.7096	137.4	-	-	3N	161W
-1911 Mar 17	06:01:18	44283	3366	-48371	-8	P	-t	-0.6917	1.5994	0.5783	313.8	163.8	-	7N	98E
-1911 Sep 10	21:51:30	44272	3364	-48365	-3	P	-a	0.6365	1.7140	0.6667	325.0	174.5	-	11S	143W
-1910 Mar 06	17:42:27	44260	3362	-48359	2	T+	pp	0.0819	2.6933	1.7219	326.7	214.7	98.8	12N	77W
-1910 Aug 31	00:43:13	44249	3360	-48353	7	T-	pp	-0.0732	2.7678	1.6803	374.9	234.0	103.9	15S	174E
-1909 Feb 24	09:50:56	44237	3358	-48347	12	P	a-	0.7902	1.3837	0.4318	273.2	134.6	-	16N	42E
-1909 Aug 20	00:24:16	44226	3356	-48341	17	P	t-	-0.7841	1.4599	0.3793	324.2	143.2	-	19S	179E
-1908 Jan 15	14:58:30	44216	3354	-48336	-16	N	-a	-1.1688	0.7193	-0.2923	225.0	-	-	22N	37W
-1908 Feb 14	01:51:36	44214	3354	-48335	22	N	a-	1.5117	0.0727	-0.9043	73.6	-	-	20N	162E
-1908 Jul 09	17:09:01	44205	3352	-48330	-11	N	-h	1.2419	0.5757	-0.4172	203.4	-	-	23S	74W
-1908 Aug 08	04:25:46	44203	3352	-48329	27	N	h-	-1.4627	0.1894	-0.8408	125.5	-	-	22S	118E
-1907 Jan 03	22:16:15	44193	3351	-48324	-6	P	-h	-0.4982	1.9797	0.9085	346.5	199.0	-	23N	148W
-1907 Jun 29	07:45:29	44182	3349	-48318	-1	T	-a	0.4637	1.9817	1.0321	305.1	189.7	26.7	23S	66E
-1907 Dec 23	22:46:08	44170	3347	-48312	4	T+	pp	0.1937	2.5545	1.4515	376.2	230.8	94.4	23N	157W
-1906 Jun 19	00:54:33	44159	3345	-48306	9	T-	p-	-0.2710	2.3339	1.3872	314.3	205.0	82.5	23S	168E
-1906 Dec 12	22:37:45	44147	3343	-48300	14	P	h-	0.8673	1.3082	0.2259	308.2	111.5	-	22N	156W
-1905 Jun 08	15:53:59	44136	3341	-48294	19	N	h-	-1.0511	0.9215	-0.0630	247.4	-	-	21S	58W
-1905 Nov 02	15:38:31	44126	3339	-48289	-14	N	-a	-1.2899	0.4910	-0.5085	185.7	-	-	8N	52W
-1905 Dec 02	04:37:12	44124	3339	-48288	24	N	a-	1.4952	0.1285	-0.8992	101.6	-	-	21N	113E
-1904 Apr 28	11:23:34	44114	3337	-48283	-9	P	-t	0.8717	1.2881	0.2294	308.1	113.7	-	7S	13E
-1904 Oct 22	06:26:21	44103	3335	-48277	-4	P	-a	-0.6004	1.7416	0.7706	294.7	170.2	-	5N	86E
-1903 Apr 17	12:02:39	44092	3333	-48271	1	T+	pp	0.1132	2.6838	1.6172	372.3	234.1	103.1	4S	4E
-1903 Oct 11	21:47:43	44080	3331	-48265	6	T+	pp	0.0663	2.7303	1.7421	327.0	213.4	98.1	1N	144W
-1902 Apr 06	15:25:33	44069	3330	-48259	11	P	t-	-0.6493	1.6812	0.6523	323.1	173.9	-	0S	46W
-1902 Oct 01	09:04:16	44057	3328	-48253	16	P	h-	0.7922	1.4240	0.3851	302.1	136.9	-	3S	47E
-1901 Feb 25	17:14:47	44047	3326	-48248	-17	N	-a	1.2278	0.5866	-0.3767	196.6	-	-	16N	70W
-1901 Mar 27	01:53:03	44045	3326	-48247	21	N	a-	-1.3565	0.3573	-0.6193	160.6	-	-	3N	157E
-1901 Aug 21	19:40:31	44036	3324	-48242	-12	N	-t	-1.4292	0.2804	-0.8085	161.8	-	-	19S	110W
-1901 Sep 20	13:14:40	44034	3324	-48241	26	N	t-	1.5420	0.0725	-1.0145	82.8	-	-	7S	16W
-1900 Feb 15	09:43:46	44024	3322	-48236	-7	P	-a	0.5190	1.8837	0.9273	300.5	182.3	-	19N	43E
-1900 Aug 09	19:59:05	44013	3320	-48230	-2	P	-t	-0.7018	1.6042	0.5370	329.7	164.6	-	21S	116W

19TH CENTURY BCE

**In the 19th century BCE the total number of lunar eclipses was 255 lunar eclipses:
 98 penumbral lunar eclipses, 97 partial lunar eclipses, 60 total lunar eclipses
 (49 central total lunar eclipses, 11 non-central total lunar eclipses).**

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG
GREATEST S ECLIPSE															
-1899 Feb 04	00:46:37	44001	3318	-48224	3	T-	p-	-0.1915	2.5031	1.5099	331.0	213.6	91.9	20N	176E
-1899 Jul 30	02:09:33	43990	3316	-48218	8	T+	pp	0.0660	2.7424	1.7315	343.5	221.9	101.3	22S	151E
-1898 Jan 24	10:00:25	43978	3314	-48212	13	P	t-	-0.9539	1.1344	0.0814	285.3	67.2	-	22N	37E
-1898 Jul 19	15:26:03	43967	3312	-48206	18	P	a-	0.7915	1.3857	0.4253	277.4	135.4	-	23S	49W
-1898 Dec 14	17:06:51	43957	3311	-48201	-15	N	-t	1.3365	0.4581	-0.6456	204.0	-	-	23N	74W
-1897 Jun 10	01:04:03	43946	3309	-48195	-10	N	-a	-1.0253	0.9531	-0.0000	241.2	-	-	22S	164E
-1897 Jul 09	08:14:26	43944	3309	-48194	28	N	a-	1.4842	0.1078	-0.8389	87.0	-	-	22S	58E
-1897 Dec 03	18:12:41	43935	3307	-48189	-5	P	-t	0.6268	1.7427	0.6737	332.2	177.1	-	20N	92W
-1896 May 29	14:42:29	43923	3305	-48183	0	T	-a	-0.2931	2.3197	1.3205	336.6	213.4	80.2	18S	40W
-1896 Nov 22	02:16:40	43912	3303	-48177	5	T-	p-	-0.0903	2.6983	1.6863	335.9	216.7	98.2	17N	147E
-1895 May 18	21:27:22	43900	3301	-48171	10	P	t-	0.4983	1.9690	0.9188	347.4	201.8	-	15S	141W
-1895 Nov 11	16:14:44	43889	3299	-48165	15	P	a-	-0.7505	1.4682	0.4933	280.8	142.7	-	12N	63W
-1894 Apr 08	07:58:34	43879	3298	-48160	-18	Ne	-t	-1.5609	0.0247	-1.0361	48.3	-	-	2S	64E
-1894 May 07	22:35:03	43877	3297	-48159	20	N	t-	1.2706	0.5607	-0.5069	221.7	-	-	10S	157W
-1894 Oct 02	20:18:34	43868	3296	-48154	-13	N	-a	1.3077	0.4583	-0.5410	180.7	-	-	2S	123W
-1894 Nov 01	07:47:53	43866	3295	-48153	25	N	a-	-1.4066	0.2681	-0.7139	137.2	-	-	8N	64E
-1893 Mar 28	13:08:19	43856	3294	-48148	-8	P	-t	-0.7537	1.4827	0.4677	304.9	149.4	-	3N	12W
-1893 Sep 22	05:47:51	43845	3292	-48142	-3	P	-a	0.6587	1.6764	0.6229	324.5	170.4	-	6S	96E
-1892 Mar 17	01:20:37	43833	3290	-48136	2	T+	pp	0.0265	2.7923	1.8261	325.8	214.9	100.2	8N	166E
-1892 Sep 10	08:10:11	43822	3288	-48130	7	T-	pp	-0.0417	2.8279	1.7357	376.2	234.6	104.8	11S	61E
-1891 Mar 06	17:44:21	43810	3286	-48124	12	P	a-	0.7417	1.4714	0.5222	278.7	146.0	-	13N	79W
-1891 Aug 30	07:44:27	43799	3284	-48118	17	P	t-	-0.7438	1.5348	0.4524	329.1	154.3	-	16S	67E
-1890 Jan 25	23:05:26	43789	3283	-48113	-16	N	-a	-1.1970	0.6676	-0.3440	218.6	-	-	21N	160W
-1890 Feb 24	09:44:42	43787	3282	-48112	22	N	a-	1.4745	0.1407	-0.8358	102.0	-	-	17N	42E
-1890 Jul 21	00:35:25	43778	3281	-48107	-11	N	-a	1.2949	0.4782	-0.5141	186.5	-	-	22S	173E
-1890 Aug 19	12:01:59	43776	3280	-48106	27	N	a-	-1.4173	0.2727	-0.7575	149.0	-	-	20S	3E
-1889 Jan 15	06:05:57	43766	3279	-48101	-6	P	-t	-0.5210	1.9377	0.8668	345.5	196.3	-	23N	94E
-1889 Jul 10	15:21:55	43755	3277	-48095	-1	P	-a	0.5253	1.8691	0.9186	300.4	182.4	-	23S	49W

-1888	Jan 04	06:30:43	43743	3275	-48089	4	T+	pp	0.1773	2.5833	1.4828	376.4	231.6	96.3	24N	86E
-1888	Jun 29	08:23:31	43732	3273	-48083	9	T-	p-	-0.2029	2.4604	1.5104	317.3	208.5	90.4	24S	54E
-1888	Dec 23	06:41:09	43720	3271	-48077	14	P	h-	0.8571	1.3246	0.2469	308.4	116.0	-	24N	82E
-1887	Jun 18	23:00:09	43709	3269	-48071	19	P	h-	-0.9812	1.0522	0.0628	261.9	56.8	-	23S	166W
-1887	Nov 13	00:24:51	43700	3268	-48066	-14	N	-a	-1.2855	0.4980	-0.4995	186.4	-	-	12N	174E
-1887	Dec 12	13:09:14	43698	3267	-48065	24	N	a-	1.4889	0.1378	-0.8854	104.8	-	-	23N	16W
-1886	May 09	17:44:05	43688	3266	-48060	-9	P	-t	0.9611	1.1248	0.0647	293.8	61.9	-	11S	85W
-1886	Nov 02	15:18:57	43677	3264	-48054	-4	P	-a	-0.6012	1.7406	0.7688	294.7	170.0	-	9N	49W
-1885	Apr 28	18:24:01	43665	3262	-48048	1	T+	pp	0.1996	2.5240	1.4600	369.5	230.6	95.5	8S	95W
-1885	Oct 23	06:29:22	43654	3260	-48042	6	T+	pp	0.0622	2.7397	1.7478	328.1	213.8	98.3	6N	83E
-1884	Apr 16	22:15:12	43642	3258	-48036	11	P	h-	-0.5712	1.8219	0.7983	328.9	187.1	-	4S	152W
-1884	Oct 11	17:20:41	43631	3256	-48030	16	P	h-	0.7853	1.4395	0.3951	304.5	138.9	-	2N	80W
-1883	Mar 08	01:03:06	43621	3254	-48025	-17	N	-a	1.2746	0.4983	-0.4602	182.2	-	-	12N	171E
-1883	Apr 06	09:13:54	43619	3254	-48024	21	N	a-	-1.2870	0.4821	-0.4894	183.6	-	-	1S	44E
-1883	Sep 01	02:56:05	43610	3253	-48019	-12	N	-t	-1.4686	0.2102	-0.8827	141.1	-	-	16S	139E
-1883	Sep 30	21:00:44	43608	3252	-48018	26	N	t-	1.5262	0.1040	-0.9877	99.2	-	-	2S	135W
-1882	Feb 25	17:44:24	43598	3251	-48013	-7	P	-a	0.5629	1.8021	0.8478	297.2	176.9	-	15N	79W
-1882	Aug 21	03:16:47	43587	3249	-48007	-2	P	-t	-0.7453	1.5249	0.4567	323.8	153.4	-	19S	134E
-1881	Feb 15	08:42:51	43576	3247	-48001	3	T-	pp	-0.1545	2.5709	1.5778	332.9	215.6	95.3	18N	56E
-1881	Aug 10	09:45:18	43564	3245	-47995	8	T+	pp	0.0179	2.8304	1.8198	342.6	221.6	101.9	21S	36E
-1880	Feb 04	17:40:59	43553	3243	-47989	13	P	t-	-0.9242	1.1889	0.1361	291.2	86.5	-	20N	79W
-1880	Jul 29	23:12:27	43541	3241	-47983	18	P	a-	0.7376	1.4851	0.5239	283.4	147.7	-	22S	167W
-1880	Dec 25	00:57:55	43532	3239	-47978	-15	N	-t	1.3466	0.4381	-0.6627	199.6	-	-	25N	168E
-1879	Jun 20	08:26:34	43520	3238	-47972	-10	N	-a	-1.0972	0.8231	-0.1337	227.9	-	-	24S	52E
-1879	Jul 19	15:56:57	43518	3237	-47971	28	N	a-	1.4297	0.2096	-0.7405	120.3	-	-	22S	59W
-1879	Dec 14	02:25:59	43509	3236	-47966	-5	P	-t	0.6296	1.7354	0.6709	330.5	176.4	-	23N	144E
-1878	Jun 09	21:38:58	43498	3234	-47960	0	T	-a	-0.3719	2.1776	1.1737	334.5	207.9	62.3	21S	146W
-1878	Dec 03	10:56:49	43486	3232	-47954	5	T-	p-	-0.0904	2.6963	1.6879	334.7	216.2	98.1	20N	16E
-1877	May 30	03:53:29	43475	3230	-47948	10	T	t-	0.4136	2.1258	1.0726	354.6	212.4	43.3	18S	120E
-1877	Nov 23	01:08:00	43463	3228	-47942	15	P	a-	-0.7510	1.4669	0.4929	280.4	142.6	-	16N	162E
-1876	May 18	04:50:17	43452	3226	-47936	20	N	t-	1.1827	0.7217	-0.3451	247.4	-	-	14S	106E
-1876	Oct 13	04:52:01	43442	3224	-47931	-13	N	-a	1.3170	0.4437	-0.5605	178.7	-	-	3N	106E
-1876	Nov 11	16:38:48	43440	3224	-47930	25	N	a-	-1.4108	0.2613	-0.7228	135.9	-	-	12N	70W
-1875	Apr 07	20:08:46	43431	3223	-47925	-8	P	-t	-0.8219	1.3546	0.3454	294.3	130.3	-	1S	120W
-1875	Oct 02	13:51:39	43420	3221	-47919	-3	P	-a	0.6738	1.6515	0.5922	324.5	167.5	-	2S	28W
-1874	Mar 28	08:51:35	43408	3219	-47913	2	T-	pp	-0.0357	2.7729	1.8116	324.5	214.5	100.0	4N	51E
-1874	Sep 21	15:45:56	43397	3217	-47907	7	T-	pp	-0.0177	2.8741	1.7777	377.2	234.9	105.1	7S	56W
-1873	Mar 18	01:30:44	43385	3215	-47901	12	P	a-	0.6875	1.5698	0.6230	284.4	157.1	-	8N	162E
-1873	Sep 10	15:15:25	43374	3213	-47895	17	P	t-	-0.7115	1.5948	0.5109	332.7	162.2	-	12S	47W
-1872	Feb 06	07:04:22	43364	3211	-47890	-16	N	-a	-1.2308	0.6056	-0.4060	210.2	-	-	19N	79E

-1872 Mar 06	17:30:14	43362	3211	-47889	22	N	a-	1.4320	0.2185	-0.7577	126.5	-	-	13N	77W
-1872 Jul 31	08:09:12	43353	3210	-47884	-11	N	-a	1.3426	0.3905	-0.6015	169.4	-	-	21S	58E
-1872 Aug 29	19:47:11	43351	3209	-47883	27	N	a-	-1.3782	0.3445	-0.6857	165.8	-	-	16S	115W
-1871 Jan 25	13:47:59	43342	3208	-47878	-6	P	-t	-0.5492	1.8856	0.8154	343.9	192.7	-	22N	22W
-1871 Jul 20	23:04:16	43330	3206	-47872	-1	P	-a	0.5821	1.7656	0.8139	295.7	174.5	-	23S	166W
-1870 Jan 14	14:07:19	43319	3204	-47866	4	T+	pp	0.1545	2.6236	1.5263	376.6	232.6	98.7	24N	28W
-1870 Jul 10	15:57:53	43307	3202	-47860	9	T-	pp	-0.1400	2.5778	1.6240	319.6	210.9	95.4	24S	60W
-1869 Jan 03	14:38:48	43296	3200	-47854	14	P	h-	0.8419	1.3499	0.2774	309.3	122.1	-	25N	38W
-1869 Jun 30	06:10:14	43285	3198	-47848	19	P	h-	-0.9152	1.1761	0.1813	274.5	95.2	-	24S	86E
-1869 Nov 24	09:10:21	43275	3197	-47843	-14	N	-a	-1.2823	0.5026	-0.4924	186.6	-	-	16N	41E
-1869 Dec 23	21:36:41	43273	3196	-47842	24	N	a-	1.4785	0.1545	-0.8638	110.3	-	-	25N	144W
-1868 May 20	00:04:23	43264	3195	-47837	-9	N	-t	1.0496	0.9632	-0.0985	277.1	-	-	15S	177E
-1868 Nov 13	00:12:36	43252	3193	-47831	-4	P	-a	-0.6012	1.7408	0.7687	294.7	170.0	-	13N	175E
-1867 May 09	00:42:49	43241	3191	-47825	1	T	pp	0.2883	2.3600	1.2983	365.4	225.0	81.8	12S	168E
-1867 Nov 02	15:14:07	43230	3189	-47819	6	T+	pp	0.0613	2.7431	1.7480	329.2	214.2	98.4	10N	50W
-1866 Apr 28	05:02:02	43218	3187	-47813	11	P	h-	-0.4897	1.9690	0.9502	333.8	198.0	-	8S	104E
-1866 Oct 23	01:41:07	43207	3185	-47807	16	P	h-	0.7826	1.4469	0.3977	306.3	139.7	-	6N	153E
-1865 Mar 19	08:43:59	43197	3184	-47802	-17	N	-a	1.3278	0.3986	-0.5556	164.1	-	-	9N	53E
-1865 Apr 17	16:31:19	43195	3183	-47801	21	N	a-	-1.2140	0.6138	-0.3532	203.8	-	-	5S	68W
-1865 Sep 12	10:22:40	43186	3182	-47796	-12	N	-t	-1.4988	0.1567	-0.9399	122.6	-	-	12S	25E
-1865 Oct 12	04:54:16	43184	3181	-47795	26	N	t-	1.5168	0.1233	-0.9725	108.1	-	-	2N	105E
-1864 Mar 08	01:36:27	43174	3180	-47790	-7	P	-a	0.6138	1.7078	0.7553	293.0	169.8	-	12N	160E
-1864 Aug 31	10:45:02	43163	3178	-47784	-2	P	-t	-0.7808	1.4602	0.3911	318.6	143.0	-	15S	20E
-1863 Feb 25	16:29:06	43152	3176	-47778	3	T-	pp	-0.1101	2.6525	1.6595	334.8	217.5	98.4	15N	63W
-1863 Aug 20	17:31:14	43140	3174	-47772	8	T-	pp	-0.0227	2.8217	1.8111	341.4	220.9	101.6	18S	82W
-1862 Feb 15	01:09:51	43129	3172	-47766	13	P	t-	-0.8856	1.2594	0.2071	298.2	105.9	-	17N	167E
-1862 Aug 10	07:07:59	43118	3170	-47760	18	P	a-	0.6908	1.5716	0.6091	288.0	156.9	-	20S	73E
-1861 Jan 05	08:43:25	43108	3169	-47755	-15	N	-t	1.3614	0.4091	-0.6880	193.0	-	-	25N	51E
-1861 Jul 01	15:52:09	43097	3167	-47749	-10	N	-a	-1.1657	0.6994	-0.2616	213.4	-	-	25S	60W
-1861 Jul 30	23:45:31	43095	3167	-47748	28	N	a-	1.3804	0.3019	-0.6519	143.4	-	-	21S	177W
-1861 Dec 25	10:36:38	43085	3165	-47743	-5	P	-t	0.6352	1.7225	0.6630	328.4	175.1	-	24N	21E
-1860 Jun 20	04:36:43	43074	3163	-47737	0	T	-a	-0.4485	2.0395	1.0305	331.7	200.9	27.4	23S	108E
-1860 Dec 13	19:35:24	43063	3161	-47731	5	T-	p-	-0.0889	2.6971	1.6928	333.4	215.8	98.1	22N	115W
-1859 Jun 09	10:18:59	43051	3159	-47725	10	T	tp	0.3291	2.2828	1.2261	360.6	220.7	72.7	20S	22E
-1859 Dec 03	10:00:27	43040	3157	-47719	15	P	a-	-0.7508	1.4664	0.4939	280.1	142.6	-	19N	28E
-1858 May 29	11:07:15	43029	3155	-47713	20	N	t-	1.0953	0.8817	-0.1848	268.8	-	-	17S	10E
-1858 Oct 24	13:28:26	43019	3154	-47708	-13	N	-a	1.3233	0.4342	-0.5742	177.6	-	-	7N	25W
-1858 Nov 23	01:28:16	43017	3154	-47707	25	N	a-	-1.4145	0.2554	-0.7303	134.7	-	-	15N	156E
-1857 Apr 19	03:08:13	43008	3152	-47702	-8	P	-t	-0.8916	1.2240	0.2200	282.5	105.6	-	5S	132E
-1857 Oct 13	22:00:20	42996	3150	-47696	-3	P	-a	0.6843	1.6349	0.5704	324.8	165.4	-	2N	152W

-1856	Apr 07	16:18:51	42985	3148	-47690	2	T-	pp	-0.1016	2.6500	1.6929	322.7	213.2	98.0	1S	64W
-1856	Oct 01	23:28:41	42974	3146	-47684	7	T+	pp	0.0002	2.9081	1.8079	378.0	235.0	105.0	3S	174W
-1855	Mar 28	09:10:03	42962	3144	-47678	12	P	a-	0.6273	1.6791	0.7342	290.2	167.6	-	4N	44E
-1855	Sep 20	22:56:35	42951	3143	-47672	17	P	t-	-0.6872	1.6400	0.5550	335.0	167.5	-	8S	165W
-1854	Feb 16	14:50:37	42942	3141	-47667	-16	N	-a	-1.2738	0.5268	-0.4849	198.2	-	-	16N	39W
-1854	Mar 18	01:04:45	42940	3141	-47666	22	N	a-	1.3816	0.3110	-0.6654	150.1	-	-	9N	167E
-1854	Aug 11	15:54:29	42930	3139	-47661	-11	N	-a	1.3817	0.3188	-0.6732	153.6	-	-	19S	59W
-1854	Sep 10	03:44:31	42928	3139	-47660	27	N	a-	-1.3481	0.3996	-0.6304	177.1	-	-	13S	124E
-1853	Feb 05	21:17:58	42919	3137	-47655	-6	P	-t	-0.5861	1.8175	0.7482	341.3	187.2	-	20N	136W
-1853	Aug 01	06:54:49	42908	3135	-47649	-1	P	-a	0.6322	1.6746	0.7211	291.1	166.6	-	22S	75E
-1852	Jan 25	21:34:55	42896	3133	-47643	4	T+	pp	0.1244	2.6770	1.5833	376.7	233.7	101.3	22N	141W
-1852	Jul 20	23:37:40	42885	3132	-47637	9	T-	pp	-0.0822	2.6860	1.7278	321.4	212.4	98.2	24S	176W
-1851	Jan 13	22:30:03	42874	3130	-47631	14	P	h-	0.8204	1.3864	0.3196	310.9	129.9	-	24N	156W
-1851	Jul 10	13:22:47	42862	3128	-47625	19	P	h-	-0.8520	1.2951	0.2943	285.6	119.8	-	25S	23W
-1851	Dec 04	17:56:25	42853	3126	-47620	-14	N	-a	-1.2794	0.5063	-0.4855	186.7	-	-	19N	91W
-1850	Jan 03	06:00:08	42851	3126	-47619	24	N	a-	1.4641	0.1781	-0.8347	117.7	-	-	25N	90E
-1850	May 31	06:23:10	42841	3124	-47614	-9	N	-t	1.1384	0.8014	-0.2624	257.5	-	-	18S	80E
-1850	Nov 24	09:06:47	42830	3122	-47608	-4	P	-a	-0.6009	1.7412	0.7693	294.7	170.1	-	17N	40E
-1849	May 20	07:02:43	42819	3121	-47602	1	T	-t	0.3765	2.1973	1.1374	360.1	217.3	58.7	15S	71E
-1849	Nov 14	00:00:49	42807	3119	-47596	6	T+	pp	0.0626	2.7420	1.7441	330.2	214.6	98.5	14N	176E
-1848	May 08	11:48:56	42796	3117	-47590	11	T	h-	-0.4070	2.1186	1.1041	337.7	206.7	49.8	12S	1W
-1848	Nov 02	10:04:38	42785	3115	-47584	16	P	h-	0.7830	1.4482	0.3947	307.7	139.7	-	11N	25E
-1847	Mar 29	16:19:57	42775	3113	-47579	-17	N	-a	1.3854	0.2909	-0.6594	141.3	-	-	4N	64W
-1847	Apr 27	23:46:48	42774	3113	-47578	21	N	a-	-1.1385	0.7503	-0.2127	221.4	-	-	9S	180W
-1847	Sep 22	17:57:23	42764	3112	-47573	-12	N	-t	-1.5226	0.1146	-0.9852	105.3	-	-	8S	90W
-1847	Oct 22	12:52:07	42762	3111	-47572	26	N	t-	1.5106	0.1363	-0.9628	113.8	-	-	7N	17W
-1846	Mar 19	09:20:31	42753	3110	-47567	-7	P	-a	0.6714	1.6015	0.6504	287.8	160.5	-	8N	42E
-1846	Sep 11	18:24:20	42741	3108	-47561	-2	P	-t	-0.8083	1.4101	0.3403	314.1	134.1	-	12S	97W
-1845	Mar 09	00:06:26	42730	3106	-47555	3	T-	pp	-0.0586	2.7470	1.7537	336.5	219.2	100.8	11N	179W
-1845	Sep 01	01:26:49	42719	3104	-47549	8	T-	pp	-0.0564	2.7598	1.7493	340.1	219.9	100.6	15S	157E
-1844	Feb 26	08:28:31	42707	3102	-47543	13	P	t-	-0.8393	1.3442	0.2923	306.1	124.6	-	14N	55E
-1844	Aug 20	15:12:03	42696	3100	-47537	18	P	a-	0.6504	1.6463	0.6824	291.7	163.8	-	17S	50W
-1843	Jan 15	16:20:06	42687	3099	-47532	-15	N	-t	1.3832	0.3668	-0.7260	183.1	-	-	25N	64W
-1843	Jul 11	23:22:07	42675	3097	-47526	-10	N	-a	-1.2301	0.5838	-0.3820	197.9	-	-	25S	174W
-1843	Aug 10	07:41:49	42673	3097	-47525	28	N	a-	1.3375	0.3827	-0.5752	160.5	-	-	19S	62E
-1842	Jan 04	18:40:54	42664	3095	-47520	-5	P	-t	0.6471	1.6979	0.6441	325.6	172.6	-	25N	100W
-1842	Jul 01	11:37:49	42653	3093	-47514	0	P	-a	-0.5213	1.9089	0.8941	328.1	192.5	-	24S	1E
-1842	Dec 25	04:08:40	42641	3091	-47508	5	T-	p-	-0.0820	2.7074	1.7078	332.1	215.5	98.3	23N	116E
-1841	Jun 20	16:47:47	42630	3089	-47502	10	T+	pp	0.2475	2.4343	1.3738	365.4	226.8	88.7	22S	77W
-1841	Dec 14	18:50:25	42619	3087	-47496	15	P	a-	-0.7484	1.4701	0.4994	280.1	143.2	-	21N	105W

-1840	Jun 08	17:25:30	42607	3086	-47490	20	Nx	t-	1.0081	1.0419	-0.0246	287.1	-	-	20S	86W
-1840	Nov 03	22:08:42	42598	3084	-47485	-13	N	-a	1.3262	0.4309	-0.5813	177.6	-	-	12N	157W
-1840	Dec 03	10:17:29	42596	3084	-47484	25	N	a-	-1.4185	0.2488	-0.7381	133.3	-	-	18N	22E
-1839	Apr 29	10:04:27	42587	3082	-47479	-8	P	-t	-0.9651	1.0867	0.0876	269.0	67.6	-	10S	25E
-1839	Oct 24	06:14:02	42575	3080	-47473	-3	P	-a	0.6897	1.6272	0.5582	325.7	164.4	-	7N	82E
-1838	Apr 18	23:41:21	42564	3078	-47467	2	T-	pp	-0.1720	2.5188	1.5654	320.4	210.9	93.5	5S	178W
-1838	Oct 13	07:19:10	42553	3077	-47461	7	T+	pp	0.0117	2.8886	1.7853	378.7	235.1	104.9	2N	66E
-1837	Apr 08	16:44:25	42542	3075	-47455	12	P	a-	0.5633	1.7959	0.8524	295.8	177.1	-	0S	72W
-1837	Oct 02	06:46:00	42530	3073	-47449	17	P	t-	-0.6688	1.6741	0.5883	336.5	171.2	-	3S	75E
-1836	Feb 27	22:28:52	42521	3071	-47444	-16	N	-a	-1.3223	0.4378	-0.5741	182.8	-	-	13N	156W
-1836	Mar 28	08:33:08	42519	3071	-47443	22	N	a-	1.3269	0.4116	-0.5653	171.6	-	-	5N	52E
-1836	Aug 21	23:48:21	42510	3069	-47438	-11	N	-a	1.4146	0.2584	-0.7338	138.6	-	-	16S	179W
-1836	Sep 20	11:50:33	42508	3069	-47437	27	N	a-	-1.3241	0.4435	-0.5863	185.2	-	-	9S	0W
-1835	Feb 16	04:38:03	42498	3068	-47432	-6	P	-t	-0.6305	1.7355	0.6673	337.7	179.6	-	17N	112E
-1835	Aug 11	14:53:01	42487	3066	-47426	-1	P	-a	0.6762	1.5948	0.6392	286.8	158.8	-	19S	46W
-1834	Feb 05	04:53:39	42476	3064	-47420	4	T+	pp	0.0869	2.7439	1.6541	376.6	234.7	103.6	20N	108E
-1834	Aug 01	07:24:41	42464	3062	-47414	9	T-	pp	-0.0309	2.7826	1.8198	322.8	213.3	99.4	22S	66E
-1833	Jan 25	06:13:41	42453	3060	-47408	14	P	h-	0.7918	1.4357	0.3750	313.2	139.1	-	23N	88E
-1833	Jul 21	20:42:18	42442	3058	-47402	19	P	t-	-0.7952	1.4024	0.3955	295.1	137.2	-	24S	134W
-1833	Dec 16	02:39:14	42432	3057	-47397	-14	N	-a	-1.2797	0.5040	-0.4842	185.8	-	-	21N	137E
-1832	Jan 14	14:17:23	42431	3056	-47396	24	N	a-	1.4442	0.2117	-0.7953	127.4	-	-	25N	35W
-1832	Jun 10	12:43:50	42421	3055	-47391	-9	N	-t	1.2247	0.6443	-0.4221	235.0	-	-	20S	17W
-1832	Dec 04	17:59:10	42410	3053	-47385	-4	P	-a	-0.6022	1.7386	0.7674	294.6	169.9	-	20N	94W
-1831	May 30	13:24:16	42399	3051	-47379	1	P	-t	0.4635	2.0369	0.9785	353.6	207.5	-	18S	27W
-1831	Nov 24	08:46:25	42387	3049	-47373	6	T+	pp	0.0634	2.7416	1.7415	331.2	215.0	98.6	17N	43E
-1830	May 19	18:36:39	42376	3047	-47367	11	T	a-	-0.3237	2.2694	1.2586	340.5	213.3	74.4	16S	105W
-1830	Nov 13	18:29:12	42365	3045	-47361	16	P	h-	0.7853	1.4458	0.3889	308.7	139.2	-	15N	103W
-1829	Apr 09	23:50:25	42355	3044	-47356	-17	N	-a	1.4480	0.1744	-0.7725	110.4	-	-	0N	179W
-1829	May 09	07:01:11	42354	3044	-47355	21	N	a-	-1.0611	0.8907	-0.0690	236.9	-	-	13S	69E
-1829	Oct 04	01:40:22	42344	3042	-47350	-12	N	-t	-1.5399	0.0842	-1.0182	90.6	-	-	3S	151E
-1829	Nov 02	20:53:29	42342	3042	-47349	26	N	t-	1.5074	0.1434	-0.9582	116.9	-	-	11N	140W
-1828	Mar 29	16:57:26	42333	3040	-47344	-7	P	-a	0.7346	1.4850	0.5348	281.4	148.5	-	4N	75W
-1828	Sep 22	02:13:52	42322	3038	-47338	-2	P	-t	-0.8283	1.3736	0.3034	310.6	127.0	-	7S	143E
-1827	Mar 19	07:32:41	42310	3037	-47332	3	T+	pp	0.0011	2.8528	1.8590	337.9	220.3	101.9	7N	67E
-1827	Sep 11	09:32:54	42299	3035	-47326	8	T-	pp	-0.0822	2.7124	1.7018	338.8	218.8	99.4	11S	34E
-1826	Mar 08	15:36:07	42288	3033	-47320	13	P	t-	-0.7847	1.4442	0.3926	314.5	142.6	-	10N	54W
-1826	Aug 31	23:25:17	42277	3031	-47314	18	P	a-	0.6175	1.7075	0.7420	294.5	168.9	-	14S	175W
-1825	Jan 26	23:49:20	42267	3029	-47309	-15	N	-t	1.4112	0.3132	-0.7749	169.7	-	-	23N	177W
-1825	Feb 25	16:58:03	42265	3029	-47308	23	N	t-	-1.5390	0.0762	-1.0072	85.8	-	-	14N	74W
-1825	Jul 23	06:57:58	42256	3028	-47303	-10	N	-a	-1.2889	0.4784	-0.4926	181.7	-	-	25S	71E

-1825	Aug 21	15:45:55	42254	3027	-47302	28	N	a-	1.3013	0.4513	-0.5110	173.5	-	-	17S	60W
-1824	Jan 16	02:40:44	42245	3026	-47297	-5	P	t-	0.6633	1.6650	0.6173	322.2	169.3	-	24N	139E
-1824	Jul 11	18:41:38	42233	3024	-47291	0	P	a-	-0.5908	1.7844	0.7637	324.0	182.6	-	24S	106W
-1823	Jan 04	12:38:29	42222	3022	-47285	5	T-	p-	-0.0715	2.7240	1.7294	330.9	215.3	98.7	24N	12W
-1823	Jun 30	23:19:49	42211	3020	-47279	10	T+	pp	0.1689	2.5806	1.5160	369.0	231.1	98.3	23S	176W
-1823	Dec 25	03:35:28	42200	3018	-47273	15	P	a-	-0.7418	1.4809	0.5125	280.5	144.7	-	23N	123E
-1822	Jun 19	23:49:27	42188	3016	-47267	20	P	t-	0.9245	1.1953	0.1285	302.1	86.8	-	22S	176E
-1822	Nov 15	06:49:04	42179	3015	-47262	-13	N	-a	1.3286	0.4279	-0.5874	177.7	-	-	16N	71E
-1822	Dec 14	19:02:18	42177	3015	-47261	25	N	a-	-1.4192	0.2477	-0.7399	133.3	-	-	21N	110W
-1821	May 10	17:02:18	42168	3013	-47256	-8	N	-t	-1.0379	0.9511	-0.0438	254.1	-	-	13S	82W
-1821	Nov 04	14:28:49	42157	3011	-47250	-3	P	a-	0.6937	1.6220	0.5491	326.5	163.7	-	11N	44W
-1820	Apr 29	07:02:41	42145	3009	-47244	2	T-	-p	-0.2442	2.3848	1.4346	317.4	207.5	86.3	9S	69E
-1820	Oct 23	15:14:23	42134	3007	-47238	7	T+	pp	0.0191	2.8763	1.7706	379.1	235.1	104.8	6N	55W
-1819	Apr 19	00:12:18	42123	3006	-47232	12	P	a-	0.4939	1.9228	0.9800	301.2	185.9	-	4S	173E
-1819	Oct 12	14:44:11	42112	3004	-47226	17	P	t-	-0.6570	1.6958	0.6099	337.1	173.4	-	1N	47W
-1818	Mar 10	05:55:11	42102	3002	-47221	-16	N	-a	-1.3795	0.3330	-0.6793	161.6	-	-	9N	90E
-1818	Apr 08	15:52:43	42100	3002	-47220	22	N	a-	1.2658	0.5245	-0.4536	192.3	-	-	0N	61W
-1818	Sep 02	07:53:24	42091	3000	-47215	-11	N	-a	1.4396	0.2128	-0.7797	126.0	-	-	13S	57E
-1818	Oct 01	20:06:21	42089	3000	-47214	27	N	a-	-1.3072	0.4742	-0.5549	190.3	-	-	4S	126W
-1817	Feb 27	11:46:18	42080	2999	-47209	-6	P	-t	-0.6838	1.6372	0.5701	332.6	169.1	-	14N	3E
-1817	Aug 22	23:00:56	42069	2997	-47203	-1	P	-a	0.7126	1.5293	0.5714	283.0	151.7	-	17S	169W
-1816	Feb 16	12:02:53	42057	2995	-47197	4	T+	pp	0.0414	2.8252	1.7397	376.3	235.4	105.4	18N	1W
-1816	Aug 11	15:18:09	42046	2993	-47191	9	T+	pp	0.0146	2.8150	1.8472	324.0	213.6	99.6	20S	54W
-1815	Feb 04	13:50:25	42035	2991	-47185	14	P	h-	0.7568	1.4967	0.4425	316.1	149.2	-	21N	28W
-1815	Aug 01	04:07:05	42024	2989	-47179	19	P	t-	-0.7438	1.5001	0.4866	303.2	150.6	-	23S	114E
-1815	Dec 26	11:18:18	42014	2988	-47174	-14	N	-a	-1.2836	0.4948	-0.4894	183.7	-	-	22N	7E
-1814	Jan 24	22:27:35	42012	2987	-47173	24	N	a-	1.4180	0.2566	-0.7443	139.1	-	-	24N	158W
-1814	Jun 21	19:06:59	42003	2986	-47168	-9	N	-t	1.3081	0.4928	-0.5764	208.9	-	-	22S	114W
-1814	Jul 21	10:03:51	42001	2986	-47167	29	Nb	t-	-1.5405	0.0629	-0.9994	76.4	-	-	25S	24E
-1814	Dec 16	02:49:24	41992	2984	-47162	-4	P	-a	-0.6050	1.7329	0.7626	294.4	169.6	-	22N	132E
-1813	Jun 10	19:49:20	41981	2982	-47156	1	P	-t	0.5482	1.8810	0.8236	346.0	195.4	-	20S	125W
-1813	Dec 05	17:30:24	41969	2980	-47150	6	T+	pp	0.0635	2.7423	1.7405	332.2	215.5	98.7	20N	89W
-1812	May 30	01:27:21	41958	2979	-47144	11	T-	p-	-0.2419	2.4179	1.4104	342.3	218.0	88.4	19S	150E
-1812	Nov 24	02:53:05	41947	2977	-47138	16	P	h-	0.7874	1.4433	0.3835	309.6	138.7	-	18N	129E
-1811	Apr 20	07:16:50	41938	2975	-47133	-17	Ne	-a	1.5142	0.0515	-0.8927	60.5	-	-	4S	66E
-1811	May 19	14:15:28	41936	2975	-47132	21	P	a-	-0.9826	1.0333	0.0763	250.6	60.6	-	16S	42W
-1811	Oct 14	09:30:08	41926	2973	-47127	-12	N	-t	-1.5518	0.0633	-1.0411	78.7	-	-	1N	32E
-1811	Nov 13	04:56:25	41924	2973	-47126	26	N	t-	1.5055	0.1477	-0.9556	118.8	-	-	15N	98E
-1810	Apr 10	00:28:46	41915	2971	-47121	-7	P	-a	0.8023	1.3606	0.4107	273.8	132.8	-	1S	169E
-1810	Oct 03	10:11:44	41904	2970	-47115	-2	P	-t	-0.8422	1.3480	0.2779	307.7	121.7	-	3S	21E

-1809 Mar 30	14:51:58	41893	2968	-47109	3	T+	pp	0.0659	2.7345	1.7396	338.9	220.5	101.2	3N	46W
-1809 Sep 22	17:48:21	41882	2966	-47103	8	T-	pp	-0.1011	2.6777	1.6675	337.5	217.8	98.3	7S	93W
-1808 Mar 18	22:34:10	41870	2964	-47097	13	P	t-	-0.7229	1.5576	0.5060	323.2	159.6	-	6N	161W
-1808 Sep 11	07:46:51	41859	2962	-47091	18	P	a-	0.5912	1.7567	0.7895	296.6	172.6	-	10S	58E
-1807 Feb 06	07:09:21	41850	2961	-47086	-15	N	-t	1.4467	0.2455	-0.8376	150.7	-	-	21N	72E
-1807 Mar 07	23:48:22	41848	2960	-47085	23	N	t-	-1.4803	0.1823	-0.8979	131.4	-	-	10N	179W
-1807 Aug 02	14:40:43	41839	2959	-47080	-10	N	-a	-1.3417	0.3843	-0.5923	164.9	-	-	23S	45W
-1807 Aug 31	23:58:38	41837	2959	-47079	28	N	a-	1.2722	0.5069	-0.4598	183.4	-	-	13S	175E
-1806 Jan 26	10:31:23	41827	2957	-47074	-5	P	-t	0.6882	1.6160	0.5748	317.8	164.0	-	23N	21E
-1806 Jul 23	01:52:15	41816	2955	-47068	0	P	-a	-0.6538	1.6722	0.6450	319.7	171.7	-	24S	146E
-1805 Jan 15	21:01:17	41805	2953	-47062	5	T-	pp	-0.0542	2.7532	1.7639	329.7	215.2	99.2	23N	138W
-1805 Jul 12	05:57:08	41794	2952	-47056	10	T+	pp	0.0950	2.7185	1.6494	371.7	233.7	103.6	24S	84E
-1804 Jan 05	12:15:19	41783	2950	-47050	15	P	a-	-0.7309	1.4998	0.5339	281.4	147.2	-	23N	8W
-1804 Jun 30	06:18:34	41771	2948	-47044	20	P	t-	0.8440	1.3435	0.2759	314.7	124.3	-	23S	77E
-1804 Nov 25	15:29:43	41762	2946	-47039	-13	N	-a	1.3302	0.4263	-0.5917	178.0	-	-	19N	60W
-1804 Dec 25	03:42:52	41760	2946	-47038	25	N	a-	-1.4174	0.2511	-0.7367	134.5	-	-	22N	119E
-1803 May 20	23:59:19	41751	2945	-47033	-8	N	-t	-1.1122	0.8129	-0.1783	237.3	-	-	17S	172E
-1803 Jun 19	10:21:33	41749	2944	-47032	30	Nb	t-	1.5510	0.0234	-0.9989	44.9	-	-	21S	16E
-1803 Nov 14	22:46:02	41740	2943	-47027	-3	P	-a	0.6948	1.6214	0.5454	327.6	163.7	-	15N	170W
-1802 May 10	14:22:28	41729	2941	-47021	2	T	-p	-0.3182	2.2478	1.3000	313.7	202.8	75.1	13S	44W
-1802 Nov 03	23:13:22	41717	2939	-47015	7	T+	pp	0.0233	2.8693	1.7621	379.5	235.1	104.7	10N	177W
-1801 Apr 30	07:38:08	41706	2937	-47009	12	T	a-	0.4229	2.0531	1.1103	306.1	193.4	48.2	8S	59E
-1801 Oct 23	22:49:18	41695	2935	-47003	17	P	h-	-0.6500	1.7085	0.6231	337.0	174.5	-	5N	170W
-1800 Mar 20	13:13:37	41686	2934	-46998	-16	N	-a	-1.4420	0.2187	-0.7943	132.8	-	-	5N	22W
-1800 Apr 18	23:06:54	41684	2934	-46997	22	N	a-	1.2008	0.6444	-0.3353	211.4	-	-	4S	172W
-1800 Sep 12	16:06:52	41674	2932	-46992	-11	N	-a	1.4586	0.1780	-0.8148	115.3	-	-	9S	68W
-1800 Oct 12	04:29:27	41673	2932	-46991	27	N	a-	-1.2953	0.4955	-0.5327	193.5	-	-	0N	106E

18TH CENTURY BCE

In the 18th century BCE the total number of lunar eclipses was 254 lunar eclipses:

94 penumbral lunar eclipses, 99 partial lunar eclipses, 61 total lunar eclipses

(49 central total lunar eclipses, 12 non-central total lunar eclipses).

	CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN	
	DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG	
	GREATEST				S								m	m	m	°	°
ECLIPSE																	
-1799 Mar 09	18:45:29	41663	2930	-46986	-6	P	-t	-0.7437	1.5268	0.4607	326.0	155.0	-	10N	104W		
-1799 Sep 02	07:17:03	41652	2928	-46980	-1	P	-a	0.7421	1.4763	0.5159	279.8	145.3	-	13S	65E		
-1798 Feb 26	19:02:48	41641	2927	-46974	4	T-	pp	-0.0119	2.8770	1.7959	375.6	235.5	105.9	14N	107W		
-1798 Aug 22	23:20:12	41630	2925	-46968	9	T+	pp	0.0522	2.7487	1.7756	325.0	213.6	99.0	17S	176W		
-1797 Feb 15	21:19:31	41619	2923	-46962	14	P	h-	0.7148	1.5706	0.5229	319.5	159.7	-	18N	141W		
-1797 Aug 12	11:38:33	41607	2921	-46956	19	P	t-	-0.6987	1.5862	0.5660	310.2	160.9	-	21S	1W		
-1796 Jan 06	19:51:27	41598	2920	-46951	-14	N	-a	-1.2928	0.4758	-0.5040	179.9	-	-	23N	122W		
-1796 Feb 05	06:30:40	41596	2919	-46950	24	N	a-	1.3855	0.3133	-0.6816	152.2	-	-	22N	81E		
-1796 Jul 02	01:35:23	41587	2918	-46945	-9	N	-t	1.3862	0.3510	-0.7214	178.9	-	-	22S	148E		
-1796 Jul 31	17:00:21	41585	2917	-46944	29	N	t-	-1.4853	0.1669	-0.9010	123.8	-	-	23S	82W		
-1796 Dec 26	11:33:45	41576	2916	-46939	-4	P	-a	-0.6129	1.7176	0.7488	293.7	168.6	-	23N	1E		
-1795 Jun 21	02:19:10	41565	2914	-46933	1	P	-t	0.6296	1.7314	0.6746	337.5	181.0	-	22S	136E		
-1795 Dec 16	02:09:41	41553	2912	-46927	6	T+	pp	0.0603	2.7489	1.7459	333.2	216.1	99.0	22N	140E		
-1794 Jun 10	08:22:31	41542	2910	-46921	11	T-	pp	-0.1624	2.5625	1.5575	343.1	220.9	96.7	21S	45E		
-1794 Dec 05	11:13:22	41531	2909	-46915	16	P	h-	0.7874	1.4444	0.3826	310.7	139.0	-	21N	3E		
-1793 May 30	21:32:11	41520	2907	-46909	21	P	a-	-0.9053	1.1742	0.2191	262.2	100.5	-	19S	153W		
-1793 Oct 25	17:26:39	41511	2905	-46904	-12	N	-t	-1.5583	0.0521	-1.0536	71.4	-	-	6N	90W		
-1793 Nov 24	13:00:11	41509	2905	-46903	26	N	t-	1.5045	0.1501	-0.9541	119.9	-	-	19N	25W		
-1792 Apr 20	07:53:41	41499	2903	-46898	-7	P	-a	0.8749	1.2275	0.2774	264.6	111.5	-	5S	55E		
-1792 Oct 13	18:18:33	41488	2902	-46892	-2	P	-t	-0.8497	1.3339	0.2644	305.7	118.6	-	2N	103W		
-1791 Apr 09	22:02:21	41477	2900	-46886	3	T+	pp	0.1371	2.6046	1.6083	339.2	219.7	98.0	1S	156W		
-1791 Oct 03	02:12:51	41466	2898	-46880	8	T-	pp	-0.1134	2.6548	1.6450	336.3	216.8	97.4	2S	139E		
-1790 Mar 30	05:22:30	41455	2896	-46874	13	P	t-	-0.6536	1.6849	0.6332	331.9	175.3	-	2N	94E		
-1790 Sep 22	16:17:19	41444	2894	-46868	18	P	a-	0.5719	1.7929	0.8241	298.0	175.1	-	6S	72W		
-1789 Feb 17	14:22:07	41434	2893	-46863	-15	N	-t	1.4884	0.1664	-0.9115	124.6	-	-	18N	37W		
-1789 Mar 19	06:31:43	41433	2893	-46862	23	N	t-	-1.4154	0.2998	-0.7771	166.5	-	-	6N	78E		
-1789 Aug 13	22:29:18	41423	2891	-46857	-10	N	-a	-1.3893	0.2999	-0.6825	147.4	-	-	21S	164W		
-1789 Sep 12	08:17:51	41421	2891	-46856	28	N	a-	1.2487	0.5523	-0.4189	191.0	-	-	9S	48E		
-1788 Feb 06	18:16:56	41412	2889	-46851	-5	P	-t	0.7183	1.5575	0.5230	312.7	157.2	-	21N	97W		
-1788 Aug 02	09:07:59	41401	2887	-46845	0	P	-a	-0.7117	1.5691	0.5353	315.2	159.7	-	22S	36E		
-1787 Jan 26	05:17:30	41390	2886	-46839	5	T-	pp	-0.0307	2.7934	1.8096	328.5	215.0	99.6	22N	97E		
-1787 Jul 22	12:40:43	41379	2884	-46833	10	T+	pp	0.0265	2.8464	1.7727	373.4	234.9	105.8	23S	18W		
-1786 Jan 15	20:48:13	41368	2882	-46827	15	P	a-	-0.7141	1.5292	0.5660	283.0	150.8	-	23N	137W		

-1786	Jul 11	12:56:25	41357	2880	-46821	20	P	t-	0.7698	1.4801	0.4116	324.8	148.5	-	23S	23W
-1786	Dec 07	00:06:08	41347	2879	-46816	-13	N	-a	1.3349	0.4187	-0.6012	177.1	-	-	22N	169E
-1785	Jan 05	12:15:48	41345	2878	-46815	25	N	a-	-1.4100	0.2647	-0.7232	138.2	-	-	22N	10W
-1785	Jun 01	07:01:28	41336	2877	-46810	-8	N	-h	-1.1832	0.6811	-0.3071	219.2	-	-	20S	64E
-1785	Jun 30	17:18:54	41334	2876	-46809	30	N	h-	1.4762	0.1599	-0.8608	115.6	-	-	22S	89W
-1785	Nov 26	07:01:25	41325	2875	-46804	-3	P	-h	0.6971	1.6184	0.5401	328.5	163.4	-	19N	65E
-1784	May 20	21:42:22	41314	2873	-46798	2	T	-a	-0.3927	2.1103	1.1642	309.3	196.8	58.0	16S	156W
-1784	Nov 14	07:14:30	41303	2871	-46792	7	T+	pp	0.0259	2.8649	1.7571	379.6	235.2	104.7	14N	61E
-1783	May 10	15:00:25	41292	2870	-46786	12	T	p-	0.3489	2.1893	1.2459	310.5	199.8	69.0	12S	55W
-1783	Nov 03	06:59:09	41280	2868	-46780	17	P	h-	-0.6461	1.7149	0.6309	336.5	174.9	-	10N	65E
-1782	Mar 31	20:21:19	41271	2866	-46775	-16	Ne	-h	-1.5120	0.0909	-0.9233	87.0	-	-	1N	132W
-1782	Apr 30	06:14:49	41269	2866	-46774	22	N	h-	1.1314	0.7730	-0.2089	229.5	-	-	8S	78E
-1782	Sep 24	00:30:44	41260	2864	-46769	-11	N	-a	1.4703	0.1566	-0.8362	108.0	-	-	5S	164E
-1782	Oct 23	12:59:51	41258	2864	-46768	27	N	a-	-1.2884	0.5074	-0.5193	194.9	-	-	5N	24W
-1781	Mar 21	01:34:31	41249	2863	-46763	-6	P	-t	-0.8109	1.4029	0.3377	317.6	135.6	-	6N	151E
-1781	Sep 13	15:41:19	41238	2861	-46757	-1	P	-a	0.7652	1.4352	0.4722	277.3	139.8	-	9S	63W
-1780	Mar 09	01:54:16	41227	2859	-46751	4	T-	pp	-0.0724	2.7638	1.6871	374.4	234.8	104.7	10N	147E
-1780	Sep 02	07:29:31	41216	2857	-46745	9	T+	-p	0.0831	2.6945	1.7161	325.9	213.5	98.0	14S	60E
-1779	Feb 26	04:40:10	41204	2855	-46739	14	P	h-	0.6647	1.6591	0.6181	323.3	170.4	-	15N	107E
-1779	Aug 22	19:17:26	41193	2854	-46733	19	P	t-	-0.6605	1.6598	0.6327	316.0	168.8	-	18S	117W
-1778	Jan 17	04:18:56	41184	2852	-46728	-14	N	-a	-1.3072	0.4470	-0.5282	174.4	-	-	22N	110E
-1778	Feb 15	14:26:33	41182	2852	-46727	24	N	a-	1.3464	0.3819	-0.6068	166.3	-	-	19N	40W
-1778	Jul 13	08:09:41	41173	2850	-46722	-9	N	-t	1.4593	0.2187	-0.8571	143.2	-	-	23S	48E
-1778	Aug 12	00:04:30	41171	2850	-46721	29	N	t-	-1.4362	0.2600	-0.8135	153.7	-	-	21S	171E
-1777	Jan 06	20:12:52	41162	2848	-46716	-4	P	-a	-0.6254	1.6940	0.7268	292.6	166.8	-	23N	130W
-1777	Jul 02	08:56:22	41151	2847	-46710	1	P	-t	0.7056	1.5919	0.5354	328.3	164.6	-	23S	36E
-1777	Dec 27	10:44:55	41140	2845	-46704	6	T+	pp	0.0542	2.7604	1.7566	334.2	216.7	99.4	24N	11E
-1776	Jun 20	15:22:23	41129	2843	-46698	11	T-	pp	-0.0858	2.7020	1.6992	343.0	222.2	101.1	23S	62W
-1776	Dec 15	19:30:19	41117	2841	-46692	16	P	t-	0.7854	1.4488	0.3855	312.1	139.8	-	23N	122W
-1775	Jun 10	04:52:00	41106	2839	-46686	21	P	a-	-0.8300	1.3118	0.3580	272.2	125.7	-	22S	95E
-1775	Nov 05	01:26:04	41097	2838	-46681	-12	N	-t	-1.5626	0.0444	-1.0617	65.9	-	-	10N	148E
-1775	Dec 04	21:00:41	41095	2838	-46680	26	N	t-	1.5010	0.1564	-0.9478	122.4	-	-	22N	146W
-1774	May 01	15:15:44	41086	2836	-46675	-7	P	-a	0.9495	1.0911	0.1400	253.8	80.9	-	9S	58W
-1774	May 30	21:58:10	41084	2836	-46674	31	Nb	a-	-1.5344	0.0127	-0.9278	30.0	-	-	20S	162W
-1774	Oct 25	02:31:19	41075	2834	-46669	-2	P	-t	-0.8530	1.3273	0.2591	304.3	117.2	-	6N	132E
-1773	Apr 21	05:07:47	41064	2832	-46663	3	T+	-p	0.2116	2.4688	1.4705	338.8	217.5	91.7	5S	94E
-1773	Oct 14	10:43:32	41053	2831	-46657	8	T-	pp	-0.1214	2.6397	1.6307	335.1	216.0	96.7	2N	9E
-1772	Apr 09	12:03:34	41042	2829	-46651	13	P	t-	-0.5789	1.8221	0.7699	340.3	189.4	-	2S	9W
-1772	Oct 03	00:54:56	41030	2827	-46645	18	P	a-	0.5583	1.8186	0.8484	298.9	176.7	-	2S	156E
-1771	Feb 27	21:24:13	41021	2826	-46640	-15	Ne	-t	1.5387	0.0714	-1.0012	82.1	-	-	15N	145W

-1771	Mar 29	13:05:15	41019	2825	-46639	23	N	t-	-1.3421	0.4328	-0.6411	197.5	-	-	2N	24W
-1771	Aug 24	06:26:41	41010	2824	-46634	-10	N	-a	-1.4293	0.2297	-0.7587	130.4	-	-	18S	76E
-1771	Sep 22	16:45:49	41008	2823	-46633	28	N	a-	1.2327	0.5838	-0.3916	196.3	-	-	5S	81W
-1770	Feb 17	01:53:06	40999	2822	-46628	-5	P	-t	0.7569	1.4832	0.4554	306.3	147.8	-	18N	148E
-1770	Aug 13	16:32:03	40988	2820	-46622	0	P	-a	-0.7618	1.4807	0.4402	310.9	147.5	-	20S	76W
-1769	Feb 06	13:25:32	40977	2818	-46616	5	T+	pp	0.0002	2.8466	1.8683	327.2	214.8	99.8	20N	26W
-1769	Aug 02	19:32:57	40966	2817	-46610	10	T-	pp	-0.0345	2.8343	1.7559	374.4	235.0	105.6	22S	122W
-1768	Jan 27	05:14:04	40955	2815	-46604	15	P	a-	-0.6915	1.5691	0.6088	285.1	155.4	-	21N	96E
-1768	Jul 21	19:41:28	40944	2813	-46598	20	P	t-	0.7005	1.6078	0.5381	333.0	166.1	-	23S	125W
-1768	Dec 17	08:39:54	40934	2812	-46593	-13	N	-a	1.3411	0.4080	-0.6134	175.6	-	-	24N	40E
-1767	Jan 15	20:42:15	40933	2811	-46592	25	N	a-	-1.3982	0.2863	-0.7013	143.8	-	-	22N	137W
-1767	Jun 11	14:06:02	40923	2810	-46587	-8	N	-h	-1.2532	0.5514	-0.4344	198.9	-	-	22S	44W
-1767	Jul 11	00:23:08	40921	2809	-46586	30	N	h-	1.4052	0.2895	-0.7301	153.1	-	-	23S	163E
-1767	Dec 06	15:14:34	40912	2808	-46581	-3	P	-h	0.7004	1.6131	0.5332	329.1	162.9	-	21N	59W
-1766	Jun 01	05:03:42	40901	2806	-46575	2	T	-a	-0.4665	1.9744	1.0293	304.3	189.5	25.5	19S	92E
-1766	Nov 25	15:16:29	40890	2804	-46569	7	T+	pp	0.0280	2.8610	1.7533	379.6	235.2	104.7	18N	61W
-1765	May 21	22:22:00	40879	2803	-46563	12	T	p-	0.2746	2.3262	1.3815	314.2	205.0	82.1	16S	167W
-1765	Nov 14	15:12:03	40868	2801	-46557	17	P	h-	-0.6440	1.7178	0.6358	335.7	175.1	-	14N	60W
-1764	May 10	13:19:43	40857	2799	-46551	22	N	h-	1.0600	0.9053	-0.0794	246.0	-	-	12S	31W
-1764	Oct 04	09:01:37	40848	2797	-46546	-11	N	-a	1.4771	0.1442	-0.8486	103.5	-	-	0S	34E
-1764	Nov 02	21:34:28	40846	2797	-46545	27	N	a-	-1.2845	0.5136	-0.5111	195.3	-	-	9N	155W
-1763	Mar 31	08:14:31	40837	2796	-46540	-6	P	-t	-0.8846	1.2675	0.2030	307.1	107.4	-	1N	49E
-1763	Sep 24	00:13:24	40826	2794	-46534	-1	P	-a	0.7820	1.4057	0.4403	275.5	135.6	-	5S	166E
-1762	Mar 20	08:38:14	40814	2792	-46528	4	T-	pp	-0.1392	2.6391	1.5666	372.3	233.0	100.9	6N	44E
-1762	Sep 13	15:46:21	40803	2790	-46522	9	T+	-p	0.1073	2.6529	1.6693	326.8	213.3	97.0	10S	66W
-1761	Mar 09	11:54:31	40792	2789	-46516	14	P	h-	0.6084	1.7590	0.7246	327.2	180.7	-	11N	4W
-1761	Sep 03	03:04:16	40781	2787	-46510	19	P	t-	-0.6296	1.7198	0.6861	320.9	174.8	-	14S	125E
-1760	Jan 28	12:38:43	40772	2785	-46505	-14	N	-a	-1.3283	0.4059	-0.5646	166.4	-	-	20N	16W
-1760	Feb 26	22:14:41	40770	2785	-46504	24	N	a-	1.3003	0.4634	-0.5192	181.0	-	-	16N	159W
-1760	Jul 23	14:51:07	40761	2783	-46499	-9	N	-t	1.5259	0.0983	-0.9810	97.1	-	-	22S	53W
-1760	Aug 22	07:16:56	40759	2783	-46498	29	N	t-	-1.3938	0.3404	-0.7386	175.2	-	-	18S	62E
-1759	Jan 17	04:44:15	40750	2782	-46493	-4	P	-a	-0.6439	1.6590	0.6937	291.0	164.0	-	23N	102E
-1759	Jul 12	15:41:48	40739	2780	-46487	1	P	-t	0.7751	1.4644	0.4077	318.9	146.2	-	23S	67W
-1758	Jan 06	19:11:23	40728	2778	-46481	6	T+	pp	0.0418	2.7833	1.7792	335.3	217.5	100.0	24N	116W
-1758	Jul 01	22:30:00	40717	2776	-46475	11	T-	pp	-0.0146	2.8318	1.8304	342.1	222.3	102.5	24S	170W
-1758	Dec 27	03:40:48	40706	2774	-46469	16	P	t-	0.7793	1.4603	0.3963	313.8	141.9	-	24N	115E
-1757	Jun 21	12:15:36	40695	2773	-46463	21	P	a-	-0.7573	1.4449	0.4917	280.6	144.0	-	23S	17W
-1757	Nov 16	09:28:34	40685	2771	-46458	-12	N	-t	-1.5644	0.0408	-1.0649	63.2	-	-	14N	26E
-1757	Dec 16	04:58:32	40684	2771	-46457	26	N	t-	1.4957	0.1659	-0.9376	126.0	-	-	24N	94E
-1756	May 11	22:33:59	40674	2769	-46452	-7	N	-a	1.0264	0.9508	-0.0019	241.2	-	-	12S	170W

-1756	Jun 10	05:22:18	40673	2769	-46451	31	N	a-	-1.4650	0.1408	-0.8013	99.0	-	-	22S	86E
-1756	Nov 04	10:49:55	40663	2768	-46446	-2	P	t-	-0.8525	1.3272	0.2608	303.3	117.3	-	10N	5E
-1755	May 01	12:05:43	40652	2766	-46440	3	T	-a	0.2914	2.3237	1.3229	337.4	213.7	80.6	9S	13W
-1755	Oct 24	19:21:17	40641	2764	-46434	8	T-	pp	-0.1244	2.6336	1.6259	334.0	215.4	96.4	7N	123W
-1754	Apr 20	18:38:00	40630	2762	-46428	13	P	t-	-0.4993	1.9687	0.9156	348.0	201.8	-	6S	110W
-1754	Oct 14	09:38:42	40619	2761	-46422	18	P	a-	0.5496	1.8351	0.8638	299.5	177.7	-	3N	23E
-1753	Apr 09	19:34:44	40608	2759	-46416	23	N	t-	-1.2648	0.5732	-0.4979	224.0	-	-	2S	124W
-1753	Sep 04	14:31:06	40599	2757	-46411	-10	N	-a	-1.4629	0.1710	-0.8233	113.6	-	-	15S	47W
-1753	Oct 04	01:19:56	40597	2757	-46410	28	N	a-	1.2221	0.6053	-0.3744	200.0	-	-	1S	148E
-1752	Feb 28	09:23:34	40588	2755	-46405	-5	P	-t	0.8011	1.3987	0.3777	298.9	135.8	-	15N	33E
-1752	Aug 24	00:02:23	40577	2754	-46399	0	P	-a	-0.8058	1.4033	0.3562	306.9	134.8	-	17S	170E
-1751	Feb 16	21:26:57	40566	2752	-46393	5	T+	pp	0.0374	2.7756	1.8028	325.8	214.3	99.5	17N	148W
-1751	Aug 13	02:33:38	40555	2750	-46387	10	T-	pp	-0.0885	2.7376	1.6545	374.9	234.3	103.7	20S	131E
-1750	Feb 06	13:30:53	40544	2748	-46381	15	P	a-	-0.6615	1.6229	0.6653	287.9	161.1	-	19N	29W
-1750	Aug 02	02:37:34	40533	2747	-46375	20	P	t-	0.6392	1.7209	0.6499	339.3	178.9	-	21S	130E
-1750	Dec 28	17:06:44	40524	2745	-46370	-13	N	-a	1.3528	0.3872	-0.6353	171.9	-	-	25N	87W
-1749	Jan 27	04:59:43	40522	2745	-46369	25	N	a-	-1.3795	0.3204	-0.6669	152.0	-	-	21N	98E
-1749	Jun 22	21:16:51	40513	2743	-46364	-8	N	-h	-1.3189	0.4299	-0.5541	177.0	-	-	24S	153W
-1749	Jul 22	07:36:33	40511	2743	-46363	30	N	h-	1.3403	0.4083	-0.6106	179.2	-	-	22S	54E
-1749	Dec 17	23:22:17	40502	2742	-46358	-3	P	-h	0.7078	1.6001	0.5193	329.1	161.5	-	23N	178E
-1748	Jun 11	12:27:50	40491	2740	-46352	2	P	-a	-0.5385	1.8420	0.8973	298.7	180.9	-	22S	21W
-1748	Dec 05	23:15:38	40480	2738	-46346	7	T+	pp	0.0323	2.8525	1.7460	379.5	235.2	104.7	21N	179E
-1747	Jun 01	05:42:34	40469	2736	-46340	12	T+	p-	0.1998	2.4645	1.5177	317.3	208.9	90.9	19S	80E
-1747	Nov 24	23:26:10	40458	2734	-46334	17	P	h-	-0.6420	1.7199	0.6408	334.8	175.2	-	17N	175E
-1746	May 21	20:21:48	40447	2733	-46328	22	P	h-	0.9871	1.0408	0.0526	261.1	52.1	-	15S	139W
-1746	Oct 15	17:39:37	40437	2731	-46323	-11	N	-a	1.4790	0.1403	-0.8519	101.9	-	-	4N	98W
-1746	Nov 14	06:11:51	40436	2731	-46322	27	N	a-	-1.2820	0.5168	-0.5052	195.2	-	-	13N	74E
-1745	Apr 11	14:47:07	40426	2729	-46317	-6	P	-t	-0.9634	1.1227	0.0585	294.1	59.0	-	3S	53W
-1745	Oct 05	08:53:09	40415	2728	-46311	-1	P	-a	0.7927	1.3871	0.4195	274.3	132.8	-	1S	34E
-1744	Mar 30	15:14:30	40404	2726	-46305	4	T-	pp	-0.2128	2.5019	1.4337	369.4	229.6	93.5	2N	58W
-1744	Sep 24	00:10:36	40393	2724	-46299	9	T+	-p	0.1247	2.6235	1.6347	327.8	213.2	96.0	6S	165E
-1743	Mar 19	19:02:06	40382	2722	-46293	14	P	h-	0.5453	1.8716	0.8436	331.0	190.5	-	7N	114W
-1743	Sep 13	10:58:50	40371	2721	-46287	19	P	t-	-0.6059	1.7666	0.7263	324.9	179.1	-	10S	4E
-1742	Feb 07	20:51:02	40362	2719	-46282	-14	N	-a	-1.3559	0.3528	-0.6129	155.5	-	-	18N	140W
-1742	Mar 09	05:55:59	40360	2719	-46281	24	N	a-	1.2479	0.5567	-0.4201	195.8	-	-	12N	84E
-1742	Sep 02	14:38:30	40349	2717	-46275	29	N	t-	-1.3589	0.4072	-0.6772	191.0	-	-	15S	50W
-1741	Jan 28	13:09:16	40340	2716	-46270	-4	P	-a	-0.6676	1.6145	0.6511	288.8	160.2	-	21N	25W
-1741	Jul 23	22:35:18	40329	2714	-46264	1	P	-t	0.8386	1.3479	0.2911	309.3	125.4	-	22S	171W
-1740	Jan 18	03:31:33	40318	2712	-46258	6	T+	pp	0.0248	2.8146	1.8103	336.4	218.2	100.5	23N	118E
-1740	Jul 12	05:44:49	40307	2710	-46252	11	T+	pp	0.0513	2.7640	1.7638	340.6	221.3	101.7	24S	81E

-1739	Jan 06	11:43:26	40296	2708	-46246	16	P	t-	0.7674	1.4825	0.4181	316.3	145.7	-	25N	6W
-1739	Jul 01	19:44:57	40285	2707	-46240	21	P	a-	-0.6886	1.5708	0.6177	287.6	158.0	-	24S	130W
-1739	Nov 26	17:30:34	40276	2705	-46235	-12	N	t-	-1.5669	0.0357	-1.0687	59.0	-	-	17N	96W
-1739	Dec 26	12:49:51	40274	2705	-46234	26	N	t-	1.4851	0.1844	-0.9175	132.7	-	-	25N	24W
-1738	May 23	05:52:14	40265	2703	-46229	-7	N	a-	1.1030	0.8114	-0.1436	226.7	-	-	16S	78E
-1738	Jun 21	12:50:55	40263	2703	-46228	31	N	a-	-1.3989	0.2631	-0.6813	134.1	-	-	24S	28W
-1738	Nov 15	19:09:40	40254	2702	-46223	-2	P	t-	-0.8519	1.3270	0.2632	302.2	117.4	-	14N	122W
-1737	May 12	19:01:43	40243	2700	-46217	3	T	a-	0.3718	2.1778	1.1739	335.1	208.2	62.4	13S	119W
-1737	Nov 05	04:02:51	40232	2698	-46211	8	T-	pp	-0.1249	2.6317	1.6259	332.9	214.9	96.2	11N	105E
-1736	May 01	01:06:08	40221	2696	-46205	13	T	t-	-0.4150	2.1239	1.0695	355.0	212.4	42.4	10S	150E
-1736	Oct 24	18:27:48	40210	2695	-46199	18	P	a-	0.5451	1.8436	0.8715	299.7	178.1	-	7N	112W
-1735	Apr 20	01:57:15	40199	2693	-46193	23	N	t-	-1.1815	0.7248	-0.3438	247.8	-	-	6S	138E
-1735	Sep 14	22:44:00	40190	2691	-46188	-10	N	a-	-1.4893	0.1255	-0.8747	98.1	-	-	11S	173W
-1735	Oct 14	10:00:21	40188	2691	-46187	28	N	a-	1.2171	0.6164	-0.3670	202.1	-	-	4N	15E
-1734	Mar 10	16:45:12	40179	2690	-46182	-5	P	t-	0.8534	1.2993	0.2849	289.9	119.2	-	11N	79W
-1734	Sep 04	07:42:03	40168	2688	-46176	0	P	a-	-0.8413	1.3415	0.2878	303.6	122.8	-	14S	53E
-1733	Feb 28	05:20:26	40157	2686	-46170	5	T+	pp	0.0820	2.6910	1.7235	324.2	213.4	98.4	14N	92E
-1733	Aug 24	09:42:25	40146	2684	-46164	10	T-	pp	-0.1356	2.6534	1.5657	375.1	233.1	100.6	17S	23E
-1732	Feb 17	21:40:09	40135	2683	-46158	15	P	a-	-0.6251	1.6882	0.7334	291.2	167.3	-	16N	153W
-1732	Aug 12	09:42:51	40124	2681	-46152	20	P	t-	0.5844	1.8222	0.7498	344.2	188.6	-	19S	22E
-1731	Jan 08	01:26:37	40115	2679	-46147	-13	N	a-	1.3692	0.3574	-0.6657	166.2	-	-	25N	148E
-1731	Feb 06	13:07:41	40113	2679	-46146	25	N	a-	-1.3541	0.3668	-0.6200	162.4	-	-	19N	25W
-1731	Jul 03	04:32:55	40104	2678	-46141	-8	N	a-	-1.3811	0.3152	-0.6676	152.7	-	-	25S	97E
-1731	Aug 01	14:59:12	40102	2677	-46140	30	N	a-	1.2816	0.5158	-0.5027	198.6	-	-	21S	58W
-1731	Dec 28	07:24:28	40093	2676	-46135	-3	P	t-	0.7190	1.5797	0.4987	328.6	159.2	-	24N	57E
-1730	Jun 22	19:55:53	40082	2674	-46129	2	P	a-	-0.6074	1.7158	0.7708	292.7	171.1	-	24S	134W
-1730	Dec 17	07:11:34	40071	2672	-46123	7	T+	pp	0.0394	2.8385	1.7339	379.1	235.1	104.6	23N	59E
-1729	Jun 12	13:05:25	40060	2671	-46117	12	T+	pp	0.1273	2.5989	1.6495	319.7	211.6	96.4	21S	32W
-1729	Dec 06	07:40:23	40049	2669	-46111	17	P	a-	-0.6393	1.7230	0.6475	333.8	175.5	-	20N	51E
-1728	Jun 01	03:22:01	40038	2667	-46105	22	P	t-	0.9134	1.1780	0.1858	274.9	96.5	-	18S	114E
-1728	Oct 26	02:22:43	40029	2666	-46100	-11	N	a-	1.4777	0.1424	-0.8491	102.4	-	-	9N	129E
-1728	Nov 24	14:50:43	40027	2665	-46099	27	N	a-	-1.2801	0.5188	-0.5000	194.8	-	-	16N	58W
-1727	Apr 21	21:13:46	40018	2664	-46094	-6	N	t-	-1.0463	0.9706	-0.0935	278.3	-	-	7S	152W
-1727	Oct 15	17:38:04	40007	2662	-46088	-1	P	a-	0.7993	1.3760	0.4064	273.7	130.9	-	4N	99W
-1726	Apr 10	21:46:05	39996	2660	-46082	4	T	pp	-0.2906	2.3573	1.2928	365.4	224.6	81.1	2S	159W
-1726	Oct 05	08:41:14	39985	2659	-46076	9	T+	p-	0.1364	2.6044	1.6108	328.8	213.3	95.3	1S	35E
-1725	Mar 31	02:05:15	39974	2657	-46070	14	P	a-	0.4775	1.9929	0.9709	334.5	199.1	-	3N	138E
-1725	Sep 24	18:59:30	39963	2655	-46064	19	P	t-	-0.5880	1.8024	0.7560	328.3	182.4	-	6S	118W
-1724	Feb 19	04:55:36	39954	2654	-46059	-14	N	a-	-1.3902	0.2876	-0.6734	140.9	-	-	15N	97E
-1724	Mar 19	13:31:04	39952	2653	-46058	24	N	a-	1.1896	0.6608	-0.3105	210.3	-	-	8N	33W

-1724	Sep 12	22:08:47	39941	2652	-46052	29	N	t-	-1.3313	0.4604	-0.6290	202.7	-	-	11S	165W
-1723	Feb 07	21:23:44	39932	2650	-46047	4	P	-a	-0.6999	1.5544	0.5929	285.7	154.5	-	19N	150W
-1723	Aug 03	05:39:46	39921	2648	-46041	1	P	-t	0.8938	1.2470	0.1897	300.1	102.5	-	21S	82E
-1722	Jan 28	11:41:06	39910	2647	-46035	6	T-	pp	-0.0000	2.8601	1.8558	337.5	219.0	101.0	22N	5W
-1722	Jul 23	13:09:10	39900	2645	-46029	11	T+	pp	0.1103	2.6553	1.6558	338.7	219.5	99.1	23S	31W
-1721	Jan 17	19:36:52	39889	2643	-46023	16	P	t-	0.7487	1.5166	0.4524	319.5	151.1	-	24N	125W
-1721	Jul 13	03:20:53	39878	2641	-46017	21	P	a-	-0.6251	1.6877	0.7340	293.3	168.7	-	24S	115E
-1721	Dec 08	01:32:22	39869	2640	-46012	-12	N	-t	-1.5696	0.0296	-1.0726	53.8	-	-	20N	142E
-1720	Jan 06	20:35:22	39867	2640	-46011	26	N	t-	1.4700	0.2111	-0.8886	141.6	-	-	25N	141W
-1720	Jun 02	13:07:58	39858	2638	-46006	-7	N	-a	1.1807	0.6703	-0.2876	209.7	-	-	18S	33W
-1720	Jul 01	20:21:26	39856	2638	-46005	31	N	a-	-1.3349	0.3822	-0.5652	160.0	-	-	25S	141W
-1720	Nov 26	03:32:37	39847	2637	-46000	-2	P	-h	-0.8495	1.3298	0.2694	301.3	118.3	-	17N	111E
-1719	May 23	01:53:26	39836	2635	-45994	3	T	-a	0.4543	2.0282	1.0206	331.6	200.6	22.6	16S	135E
-1719	Nov 15	12:47:20	39825	2633	-45988	8	T-	pp	-0.1236	2.6331	1.6295	331.8	214.4	96.1	15N	28W
-1718	May 12	07:30:59	39814	2631	-45982	13	T	tp	-0.3287	2.2831	1.2270	360.9	220.9	72.9	14S	51E
-1718	Nov 05	03:20:38	39803	2630	-45976	18	P	a-	0.5442	1.8457	0.8732	299.6	178.1	-	12N	113E
-1717	May 01	08:18:03	39792	2628	-45970	23	N	t-	-1.0958	0.8808	-0.1856	268.6	-	-	10S	40E
-1717	Sep 26	07:02:11	39783	2626	-45965	-10	N	-a	-1.5108	0.0888	-0.9170	83.1	-	-	6S	61E
-1717	Oct 25	18:44:09	39781	2626	-45964	28	N	a-	1.2155	0.6212	-0.3657	203.3	-	-	8N	118W
-1716	Mar 21	00:02:45	39772	2625	-45959	-5	P	-t	0.9100	1.1924	0.1844	279.6	97.0	-	7N	169E
-1716	Sep 14	15:28:04	39761	2623	-45953	0	P	-h	-0.8708	1.2905	0.2304	300.9	111.1	-	10S	66W
-1715	Mar 10	13:06:32	39750	2621	-45947	5	T+	pp	0.1335	2.5941	1.6317	322.3	212.0	95.9	10N	27W
-1715	Sep 03	17:00:57	39739	2619	-45941	10	T-	pp	-0.1746	2.5841	1.4920	375.0	231.7	97.0	13S	89W
-1714	Feb 28	05:40:50	39728	2618	-45935	15	P	a-	-0.5817	1.7667	0.8143	295.0	174.1	-	13N	85E
-1714	Aug 23	16:59:12	39718	2616	-45929	20	P	t-	0.5380	1.9081	0.8344	347.8	195.6	-	16S	89W
-1713	Jan 19	09:36:49	39708	2614	-45924	-13	N	-a	1.3928	0.3143	-0.7092	157.0	-	-	24N	25E
-1713	Feb 17	21:05:56	39707	2614	-45923	25	N	a-	-1.3215	0.4264	-0.5601	174.6	-	-	16N	147W
-1713	Jul 14	11:57:54	39697	2613	-45918	-8	N	-a	-1.4370	0.2123	-0.7696	126.1	-	-	25S	15W
-1713	Aug 12	22:32:47	39696	2612	-45917	30	N	a-	1.2306	0.6092	-0.4090	213.2	-	-	19S	173W
-1712	Jan 08	15:18:04	39687	2611	-45912	-3	P	-t	0.7365	1.5472	0.4666	327.1	155.1	-	25N	62W
-1712	Jul 03	03:28:24	39676	2609	-45906	2	P	-a	-0.6728	1.5962	0.6503	286.3	160.1	-	24S	112E
-1712	Dec 27	15:01:50	39665	2607	-45900	7	T+	pp	0.0513	2.8152	1.7133	378.6	235.0	104.4	24N	59W
-1711	Jun 22	20:30:25	39654	2606	-45894	12	T+	pp	0.0569	2.7298	1.7769	321.5	213.2	99.3	23S	145W
-1711	Dec 16	15:50:54	39643	2604	-45888	17	P	a-	-0.6327	1.7329	0.6617	333.1	176.5	-	22N	73W
-1710	Jun 12	10:22:58	39632	2602	-45882	22	P	t-	0.8410	1.3134	0.3165	287.3	124.0	-	21S	7E
-1710	Nov 06	11:10:28	39623	2601	-45877	-11	N	-a	1.4737	0.1491	-0.8411	104.4	-	-	13N	5W
-1710	Dec 05	23:29:20	39621	2601	-45876	27	N	a-	-1.2770	0.5225	-0.4925	194.7	-	-	19N	172E
-1709	May 03	03:35:15	39612	2599	-45871	-6	N	-t	-1.1323	0.8129	-0.2516	259.2	-	-	11S	110E
-1709	Oct 27	02:28:03	39601	2597	-45865	-1	P	-a	0.8019	1.3721	0.4008	273.6	130.2	-	8N	126E
-1708	Apr 21	04:12:56	39590	2596	-45859	4	T	-t	-0.3728	2.2047	1.1439	360.1	217.5	59.8	6S	102E

-1708	Oct 15	17:17:38	39579	2594	-45853	9	T+	-p	0.1425	2.5955	1.5974	330.0	213.5	94.9	3N	96W
-1707	Apr 10	09:02:51	39568	2592	-45847	14	T	a-	0.4042	2.1246	1.1083	337.5	206.6	50.6	1S	30E
-1707	Oct 05	03:07:33	39558	2590	-45841	19	P	t-	-0.5772	1.8252	0.7730	330.9	184.4	-	2S	117E
-1706	Mar 01	12:53:03	39548	2589	-45836	-14	N	-a	-1.4304	0.2115	-0.7452	121.4	-	-	12N	24W
-1706	Mar 30	21:01:14	39547	2589	-45835	24	N	a-	1.1267	0.7737	-0.1925	224.1	-	-	3N	148W
-1706	Sep 24	05:46:29	39536	2587	-45829	29	N	t-	-1.3098	0.5021	-0.5919	211.3	-	-	7S	78E
-1705	Feb 19	05:31:10	39527	2586	-45824	-4	P	-a	-0.7377	1.4841	0.5244	281.8	147.1	-	16N	87E
-1705	Aug 14	12:54:15	39516	2584	-45818	1	P	-t	0.9412	1.1602	0.1022	291.5	76.0	-	18S	28W
-1704	Feb 08	19:42:11	39505	2582	-45812	6	T-	pp	-0.0312	2.8028	1.7986	338.5	219.5	101.1	19N	126W
-1704	Aug 02	20:41:52	39494	2580	-45806	11	T+	pp	0.1632	2.5580	1.5588	336.5	217.2	95.3	21S	146W
-1703	Jan 28	03:20:33	39483	2579	-45800	16	P	t-	0.7229	1.5637	0.4999	323.5	158.1	-	22N	119E
-1703	Jul 23	11:04:17	39472	2577	-45794	21	P	a-	-0.5675	1.7938	0.8391	298.0	176.9	-	24S	2W
-1703	Dec 18	09:28:51	39463	2575	-45789	-12	N	-t	-1.5764	0.0157	-1.0835	39.1	-	-	21N	22E
-1702	Jan 17	04:10:56	39461	2575	-45788	26	N	t-	1.4471	0.2517	-0.8452	154.0	-	-	25N	105E
-1702	Jun 13	20:26:32	39452	2574	-45783	-7	N	-a	1.2553	0.5354	-0.4262	190.5	-	-	20S	144W
-1702	Jul 13	03:58:43	39451	2573	-45782	31	N	a-	-1.2766	0.4909	-0.4600	179.8	-	-	25S	104E
-1702	Dec 07	11:53:35	39441	2572	-45777	-2	P	-h	-0.8489	1.3288	0.2725	300.1	118.6	-	20N	15W
-1701	Jun 03	08:44:32	39431	2570	-45771	3	P	-h	0.5362	1.8801	0.8682	327.2	190.9	-	19S	31E
-1701	Nov 26	21:31:51	39420	2569	-45765	8	T-	-p	-0.1227	2.6332	1.6325	330.7	214.0	96.0	18N	161W
-1700	May 22	13:53:08	39409	2567	-45759	13	T-	pp	-0.2409	2.4452	1.3870	365.7	227.4	89.9	17S	47W
-1700	Nov 15	12:14:54	39398	2565	-45753	18	P	a-	0.5441	1.8458	0.8734	299.5	178.0	-	15N	22W

17TH CENTURY BCE

In the 17th century BCE the total number of lunar eclipses was 244 lunar eclipses:
90 penumbral lunar eclipses, 87 partial lunar eclipses, 67 total lunar eclipses
(46 central total lunar eclipses, 21 non-central total lunar eclipses).

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN				
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG				
GREATEST				S								m	m	m	o	o			
ECLIPSE																			

-1699	May 11	14:35:11	39387	2563	-45747	23	Nx	t-	-1.0064	1.0440	-0.0206	287.0	-	-	14S	57W
-1699	Oct 06	15:27:57	39378	2562	-45742	-10	N	-a	-1.5259	0.0639	-0.9472	71.0	-	-	2S	68W
-1699	Nov 05	03:31:37	39376	2562	-45741	28	N	a-	1.2173	0.6194	-0.3704	203.6	-	-	12N	108E
-1698	Apr 01	07:13:53	39367	2560	-45736	-5	P	-t	0.9727	1.0743	0.0723	267.5	61.4	-	3N	58E
-1698	Sep 25	23:21:36	39356	2558	-45730	0	P	-h	-0.8934	1.2520	0.1861	298.9	100.8	-	6S	174E
-1697	Mar 21	20:46:18	39345	2557	-45724	5	T+	-p	0.1909	2.4864	1.5287	320.0	209.8	91.6	6N	144W
-1697	Sep 15	00:28:36	39335	2555	-45718	10	T-	pp	-0.2059	2.5286	1.4324	374.8	230.2	93.2	9S	157E
-1696	Mar 10	13:33:03	39324	2553	-45712	15	P	a-	-0.5313	1.8580	0.9077	299.0	181.0	-	9N	36W
-1696	Sep 03	00:25:47	39313	2552	-45706	20	P	t-	0.4990	1.9802	0.9052	350.4	200.7	-	13S	158E
-1695	Jan 29	17:38:27	39304	2550	-45701	-13	N	-a	1.4225	0.2597	-0.7638	143.9	-	-	23N	96W
-1695	Feb 28	04:54:39	39302	2550	-45700	25	N	a-	-1.2821	0.4986	-0.4876	188.0	-	-	12N	94E
-1695	Jul 24	19:30:28	39293	2548	-45695	-8	N	-a	-1.4875	0.1194	-0.8623	95.0	-	-	24S	129W
-1695	Aug 23	06:16:32	39291	2548	-45694	30	N	a-	1.1868	0.6896	-0.3286	224.3	-	-	16S	70E
-1694	Jan 18	23:02:55	39282	2547	-45689	-3	P	-t	0.7606	1.5026	0.4228	324.7	149.0	-	24N	178W
-1694	Jul 14	11:07:26	39271	2545	-45683	2	P	-a	-0.7331	1.4863	0.5388	279.9	148.2	-	25S	4W
-1693	Jan 07	22:46:45	39260	2543	-45677	7	T+	pp	0.0680	2.7829	1.6842	377.8	234.7	103.9	24N	176W
-1693	Jul 04	03:58:34	39250	2542	-45671	12	T-	pp	-0.0104	2.8171	1.8603	322.7	213.8	100.0	24S	102E
-1693	Dec 27	23:58:42	39239	2540	-45665	17	P	a-	-0.6230	1.7482	0.6820	332.6	178.2	-	23N	165E
-1692	Jun 22	17:25:19	39228	2538	-45659	22	P	t-	0.7702	1.4459	0.4438	298.3	144.6	-	22S	100W
-1692	Nov 16	19:59:26	39219	2537	-45654	-11	N	-a	1.4691	0.1565	-0.8319	106.7	-	-	17N	139W
-1692	Dec 16	08:04:52	39217	2536	-45653	27	N	a-	-1.2710	0.5313	-0.4794	195.4	-	-	21N	42E
-1691	May 13	09:53:54	39208	2535	-45648	-6	N	-t	-1.2197	0.6530	-0.4122	236.4	-	-	15S	13E
-1691	Nov 06	11:20:26	39197	2533	-45642	-1	P	-a	0.8026	1.3714	0.3989	273.7	129.9	-	13N	9W
-1690	May 02	10:38:53	39186	2532	-45636	4	P	-t	-0.4559	2.0505	0.9928	353.7	208.2	-	10S	2E
-1690	Oct 27	01:56:50	39175	2530	-45630	9	T+	-p	0.1458	2.5915	1.5895	331.1	213.8	94.7	8N	132E
-1689	Apr 21	15:59:04	39165	2528	-45624	14	T	a-	0.3284	2.2609	1.2498	339.8	212.6	73.2	6S	77W
-1689	Oct 16	11:20:21	39154	2526	-45618	19	P	t-	-0.5710	1.8393	0.7818	333.0	185.7	-	3N	8W
-1688	Mar 11	20:41:50	39145	2525	-45613	-14	N	-a	-1.4781	0.1219	-0.8306	92.7	-	-	8N	144W
-1688	Apr 10	04:25:24	39143	2525	-45612	24	N	a-	1.0579	0.8976	-0.0641	237.5	-	-	1S	98E
-1688	Oct 04	13:32:20	39132	2523	-45606	29	N	t-	-1.2950	0.5314	-0.5667	217.3	-	-	2S	40W
-1687	Mar 01	13:28:09	39123	2522	-45601	-4	P	-a	-0.7840	1.3984	0.4401	276.6	136.7	-	12N	35W
-1687	Aug 24	20:20:36	39112	2520	-45595	1	P	-t	0.9799	1.0896	0.0311	283.9	42.2	-	15S	142W
-1686	Feb 19	03:31:18	39101	2518	-45589	6	T-	pp	-0.0715	2.7289	1.7247	339.3	219.8	100.4	16N	115E
-1686	Aug 14	04:25:31	39091	2516	-45583	11	T+	pp	0.2080	2.4759	1.4769	334.3	214.7	90.8	19S	97E
-1685	Feb 08	10:54:02	39080	2515	-45577	16	P	t-	0.6896	1.6245	0.5614	328.1	166.4	-	20N	4E
-1685	Aug 03	18:54:28	39069	2513	-45571	21	P	a-	-0.5154	1.8902	0.9341	301.7	183.3	-	22S	120W
-1684	Jan 28	11:39:15	39058	2511	-45565	26	N	t-	1.4183	0.3028	-0.7908	168.0	-	-	23N	8W
-1684	Jun 24	03:45:42	39049	2510	-45560	-7	N	-a	1.3282	0.4037	-0.5622	168.2	-	-	22S	104E
-1684	Jul 23	11:40:30	39047	2510	-45559	31	N	a-	-1.2225	0.5921	-0.3629	196.0	-	-	24S	13W

-1684	Dec 17	20:12:47	39038	2508	-45554	-2	P	-h	-0.8508	1.3229	0.2713	298.4	118.0	-	22N	140W
-1683	Jun 13	15:34:50	39027	2506	-45548	3	P	-h	0.6176	1.7331	0.7164	321.6	178.6	-	21S	73W
-1683	Dec 07	06:16:02	39017	2505	-45542	8	T-	-p	-0.1226	2.6316	1.6343	329.6	213.6	96.0	21N	67E
-1682	Jun 02	20:15:38	39006	2503	-45536	13	T-	pp	-0.1536	2.6067	1.5460	369.2	231.9	100.0	20S	144W
-1682	Nov 26	21:08:55	38995	2501	-45530	18	P	a-	0.5439	1.8459	0.8740	299.4	178.0	-	19N	157W
-1681	May 22	20:54:16	38984	2500	-45524	23	P	t-	-0.9176	1.2062	0.1430	302.7	91.3	-	17S	154W
-1681	Oct 17	23:57:47	38975	2498	-45519	-10	N	-a	-1.5371	0.0458	-0.9704	60.4	-	-	3N	162E
-1681	Nov 16	12:19:51	38973	2498	-45518	28	N	a-	1.2203	0.6150	-0.3773	203.5	-	-	16N	25W
-1680	Apr 11	14:21:20	38964	2496	-45513	-5	N	-t	1.0392	0.9494	-0.0470	253.6	-	-	2S	52W
-1680	Oct 06	07:20:59	38954	2495	-45507	0	P	-h	-0.9104	1.2235	0.1521	297.6	91.8	-	1S	52E
-1679	Apr 01	04:20:24	38943	2493	-45501	5	T+	-p	0.2534	2.3696	1.4160	317.1	206.7	84.8	2N	99E
-1679	Sep 25	08:04:42	38932	2491	-45495	10	T-	pp	-0.2302	2.4858	1.3861	374.6	228.9	89.7	5S	41E
-1678	Mar 21	21:17:40	38921	2490	-45489	15	T	a-	-0.4748	1.9608	1.0122	303.1	187.8	16.4	5N	154W
-1678	Sep 14	08:03:30	38910	2488	-45483	20	P	t-	0.4686	2.0364	0.9605	352.0	204.2	-	9S	41E
-1677	Feb 10	01:29:26	38901	2487	-45478	-13	N	-a	1.4601	0.1908	-0.8328	124.5	-	-	20N	145E
-1677	Mar 11	12:33:58	38900	2486	-45477	25	N	a-	-1.2358	0.5837	-0.4027	202.4	-	-	9N	23W
-1677	Aug 05	03:11:58	38891	2485	-45472	-8	Ne	-a	-1.5318	0.0382	-0.9435	54.0	-	-	23S	115E
-1677	Sep 03	14:10:16	38889	2485	-45471	30	N	a-	1.1502	0.7568	-0.2613	232.6	-	-	12S	50W
-1676	Jan 30	06:37:25	38880	2483	-45466	-3	P	-t	0.7926	1.4434	0.3648	321.0	139.9	-	22N	67E
-1676	Jul 24	18:53:15	38869	2481	-45460	2	P	-a	-0.7882	1.3863	0.4368	273.5	135.4	-	24S	121W
-1675	Jan 18	06:21:44	38858	2480	-45454	7	T+	pp	0.0930	2.7351	1.6404	376.8	234.2	103.0	23N	70E
-1675	Jul 14	11:31:57	38847	2478	-45448	12	T-	pp	-0.0727	2.7050	1.7438	323.5	213.6	98.9	24S	12W
-1674	Jan 07	08:00:08	38837	2476	-45442	17	P	a-	-0.6072	1.7745	0.7139	332.5	180.8	-	23N	44E
-1674	Jul 04	00:30:49	38826	2475	-45436	22	P	t-	0.7030	1.5721	0.5643	307.9	160.5	-	23S	152E
-1674	Nov 28	04:48:44	38817	2473	-45431	-11	N	-a	1.4650	0.1629	-0.8232	108.5	-	-	20N	88E
-1674	Dec 27	16:36:29	38815	2473	-45430	27	N	a-	-1.2613	0.5467	-0.4591	197.2	-	-	22N	86W
-1673	May 24	16:11:02	38806	2472	-45425	-6	N	-t	-1.3074	0.4925	-0.5738	208.7	-	-	18S	84W
-1673	Jun 23	06:32:57	38804	2471	-45424	32	N	t-	1.5145	0.1076	-0.9487	99.5	-	-	22S	61E
-1673	Nov 17	20:15:23	38795	2470	-45419	-1	P	-a	0.8012	1.3743	0.4012	274.1	130.3	-	16N	145W
-1672	May 12	17:01:30	38784	2468	-45413	4	P	-t	-0.5422	1.8907	0.8358	345.9	196.2	-	14S	96W
-1672	Nov 06	10:39:52	38774	2466	-45407	9	T+	-p	0.1451	2.5945	1.5890	332.4	214.2	94.8	12N	1W
-1671	May 01	22:52:27	38763	2465	-45401	14	T+	p-	0.2492	2.4039	1.3976	341.4	217.3	87.3	10S	177E
-1671	Oct 26	19:37:13	38752	2463	-45395	19	P	t-	-0.5689	1.8454	0.7833	334.7	186.3	-	7N	135W
-1670	Mar 23	04:24:41	38743	2462	-45390	-14	Ne	-a	-1.5309	0.0233	-0.9256	40.8	-	-	4N	98E
-1670	Apr 21	11:47:06	38741	2461	-45389	24	P	a-	0.9864	1.0267	0.0690	249.7	57.7	-	5S	15W
-1670	Oct 15	21:24:19	38731	2460	-45383	29	N	t-	-1.2851	0.5513	-0.5502	221.3	-	-	2N	161W
-1669	Mar 12	21:18:30	38722	2458	-45378	-4	P	-a	-0.8354	1.3035	0.3465	270.4	123.2	-	8N	155W
-1669	Sep 05	03:55:48	38711	2457	-45372	1	Nx	-t	1.0118	1.0312	-0.0278	277.1	-	-	12S	103E
-1668	Mar 01	11:12:01	38700	2455	-45366	6	T-	-p	-0.1177	2.6443	1.6399	339.8	219.6	98.7	13N	2W
-1668	Aug 24	12:18:22	38689	2453	-45360	11	T+	-p	0.2455	2.4071	1.4079	332.0	212.1	86.0	16S	23W

-1667	Feb 18	18:15:45	38678	2451	-45354	16	P	t-	0.6477	1.7010	0.6386	333.4	175.7	-	17N	108W
-1667	Aug 14	02:53:50	38668	2450	-45348	21	T	a-	-0.4709	1.9728	1.0148	304.6	188.0	18.1	20S	118E
-1666	Feb 07	18:56:54	38657	2448	-45342	26	N	t-	1.3814	0.3688	-0.7213	184.2	-	-	21N	118W
-1666	Jul 05	11:09:42	38648	2447	-45337	-7	N	a-	1.3964	0.2810	-0.6896	142.4	-	-	22S	8W
-1666	Aug 03	19:29:46	38646	2446	-45336	31	N	a-	-1.1751	0.6813	-0.2780	208.9	-	-	23S	131W
-1666	Dec 29	04:26:35	38637	2445	-45331	-2	P	-h	-0.8575	1.3079	0.2616	295.9	115.7	-	23N	96E
-1665	Jun 24	22:27:57	38626	2443	-45325	3	P	-h	0.6953	1.5933	0.5714	315.2	163.9	-	23S	178W
-1665	Dec 18	14:56:49	38616	2442	-45319	8	T-	-p	-0.1259	2.6237	1.6303	328.4	213.1	95.7	23N	63W
-1664	Jun 13	02:37:53	38605	2440	-45313	13	T-	pp	-0.0668	2.7675	1.7038	371.6	234.5	105.2	22S	119E
-1664	Dec 07	06:01:23	38594	2438	-45307	18	P	a-	0.5426	1.8477	0.8768	299.4	178.2	-	21N	69E
-1663	Jun 02	03:13:57	38583	2437	-45301	23	P	t-	-0.8288	1.3687	0.3064	316.1	130.3	-	20S	109E
-1663	Oct 28	08:31:53	38574	2435	-45296	-10	N	a-	-1.5442	0.0350	-0.9855	53.0	-	-	7N	31E
-1663	Nov 26	21:07:19	38573	2435	-45295	28	N	a-	1.2237	0.6098	-0.3844	203.3	-	-	20N	158W
-1662	Apr 22	21:25:32	38564	2433	-45290	-5	N	-h	1.1089	0.8190	-0.1723	237.7	-	-	6S	160W
-1662	May 22	07:37:03	38562	2433	-45289	33	Nb	h-	-1.5446	0.0329	-0.9851	53.1	-	-	18S	43E
-1662	Oct 17	15:26:47	38553	2432	-45284	0	P	-h	-0.9210	1.2065	0.1303	297.2	85.4	-	3N	72W
-1661	Apr 12	11:49:33	38542	2430	-45278	5	T	-p	0.3205	2.2445	1.2946	313.5	202.4	74.5	2S	16W
-1661	Oct 06	15:48:29	38531	2428	-45272	10	T-	-p	-0.2480	2.4547	1.3520	374.4	227.8	86.8	1S	77W
-1660	Apr 01	04:55:31	38521	2427	-45266	15	T	a-	-0.4130	2.0736	1.1262	307.2	194.2	51.2	1N	88E
-1660	Sep 24	15:51:13	38510	2425	-45260	20	T	t-	0.4455	2.0792	1.0027	352.8	206.5	8.4	5S	78W
-1659	Feb 20	09:09:41	38501	2424	-45255	-13	N	a-	1.5053	0.1079	-0.9157	94.7	-	-	17N	29E
-1659	Mar 21	20:03:36	38499	2423	-45254	25	N	a-	-1.1824	0.6819	-0.3050	217.4	-	-	5N	138W
-1659	Sep 13	22:14:35	38489	2422	-45248	30	N	a-	1.1212	0.8098	-0.2081	238.5	-	-	8S	173W
-1658	Feb 09	14:02:20	38479	2420	-45243	-3	P	-t	0.8317	1.3709	0.2938	315.9	127.2	-	20N	45W
-1658	Aug 05	02:46:17	38469	2419	-45237	2	P	-a	-0.8373	1.2974	0.3456	267.3	122.0	-	22S	119E
-1657	Jan 29	13:49:56	38458	2417	-45231	7	T+	pp	0.1237	2.6766	1.5861	375.4	233.3	101.2	22N	43W
-1657	Jul 25	19:10:51	38447	2415	-45225	12	T-	-p	-0.1298	2.6027	1.6365	323.9	212.7	96.3	23S	128W
-1656	Jan 18	15:55:41	38437	2414	-45219	17	P	a-	-0.5858	1.8107	0.7561	332.9	184.2	-	23N	75W
-1656	Jul 14	07:39:36	38426	2412	-45213	22	P	t-	0.6393	1.6919	0.6781	316.4	173.3	-	23S	44E
-1656	Dec 08	13:36:22	38417	2411	-45208	-11	N	a-	1.4628	0.1655	-0.8178	109.1	-	-	23N	45W
-1655	Jan 07	01:02:39	38415	2410	-45207	27	N	a-	-1.2465	0.5712	-0.4294	200.3	-	-	23N	146E
-1655	Jun 03	22:29:04	38406	2409	-45202	-6	N	-t	-1.3935	0.3353	-0.7326	175.0	-	-	21S	180E
-1655	Jul 03	13:09:14	38404	2409	-45201	32	N	t-	1.4432	0.2407	-0.8201	147.6	-	-	22S	39W
-1655	Nov 28	05:08:14	38395	2407	-45196	-1	P	-a	0.8016	1.3737	0.4003	274.3	130.3	-	20N	81E
-1654	May 23	23:26:54	38385	2405	-45190	4	P	-t	-0.6268	1.7345	0.6819	336.9	181.6	-	18S	166E
-1654	Nov 17	19:22:48	38374	2404	-45184	9	T+	-p	0.1442	2.5976	1.5891	333.5	214.7	95.0	16N	133W
-1653	May 13	05:46:12	38363	2402	-45178	14	T+	pp	0.1691	2.5487	1.5466	342.1	220.4	96.1	14S	71E
-1653	Nov 07	03:55:55	38352	2400	-45172	19	P	t-	-0.5691	1.8470	0.7811	336.1	186.6	-	11N	99E
-1652	May 01	19:05:41	38342	2399	-45166	24	P	a-	0.9115	1.1626	0.2082	261.0	98.1	-	9S	127W
-1652	Oct 26	05:21:28	38331	2397	-45160	29	N	t-	-1.2796	0.5626	-0.5415	223.7	-	-	7N	78E

-1651	Mar 23	04:58:24	38322	2396	-45155	-4	P	-a	-0.8948	1.1941	0.2378	262.5	103.9	-	4N	88E
-1651	Sep 15	11:43:17	38311	2394	-45149	1	N	-t	1.0345	0.9898	-0.0695	271.9	-	-	8S	16W
-1650	Mar 12	18:41:39	38301	2392	-45143	6	T-	-p	-0.1720	2.5449	1.5401	339.9	218.6	95.1	9N	117W
-1650	Sep 04	20:21:11	38290	2391	-45137	11	T	-p	0.2755	2.3521	1.3529	329.9	209.8	81.4	13S	145W
-1649	Mar 02	01:27:15	38279	2389	-45131	16	P	t-	0.5982	1.7914	0.7298	339.2	185.4	-	13N	142E
-1649	Aug 25	11:01:21	38269	2387	-45125	21	T	a-	-0.4331	2.0430	1.0831	306.8	191.6	42.0	17S	5W
-1648	Feb 19	02:05:08	38258	2386	-45119	26	N	t-	1.3365	0.4492	-0.6370	201.5	-	-	18N	133E
-1648	Jul 15	18:36:26	38249	2384	-45114	-7	N	-a	1.4614	0.1644	-0.8116	110.6	-	-	22S	120W
-1648	Aug 14	03:25:16	38247	2384	-45113	31	N	a-	-1.1332	0.7606	-0.2035	219.6	-	-	20S	109E
-1647	Jan 08	12:36:14	38238	2383	-45108	-2	P	-h	-0.8685	1.2849	0.2444	292.7	111.8	-	23N	27W
-1647	Jul 05	05:23:28	38227	2381	-45102	3	P	-h	0.7697	1.4596	0.4320	308.1	146.1	-	23S	77E
-1647	Dec 28	23:33:24	38217	2379	-45096	8	T-	-p	-0.1331	2.6082	1.6191	327.1	212.6	95.3	24N	167E
-1646	Jun 24	09:04:11	38206	2378	-45090	13	T+	pp	0.0162	2.8620	1.7951	372.9	235.3	106.3	23S	21E
-1646	Dec 18	14:51:09	38195	2376	-45084	18	P	a-	0.5394	1.8528	0.8833	299.5	178.7	-	23N	64W
-1645	Jun 13	09:37:13	38185	2374	-45078	23	P	t-	-0.7419	1.5277	0.4661	327.3	156.6	-	22S	12E
-1645	Nov 08	17:07:30	38176	2373	-45073	-10	N	-a	-1.5495	0.0273	-0.9971	47.0	-	-	11N	99W
-1645	Dec 08	05:52:42	38174	2373	-45072	28	N	a-	1.2260	0.6063	-0.3894	203.3	-	-	22N	69E
-1644	May 03	04:28:51	38165	2371	-45067	-5	N	-h	1.1798	0.6865	-0.3003	219.5	-	-	10S	91E
-1644	Jun 01	14:24:27	38163	2371	-45066	33	N	h-	-1.4613	0.1842	-0.8306	123.4	-	-	21S	60W
-1644	Oct 27	23:35:28	38154	2370	-45061	0	P	-h	-0.9289	1.1941	0.1137	297.1	80.2	-	8N	163E
-1643	Apr 22	19:14:57	38144	2368	-45055	5	T	-p	0.3914	2.1131	1.1662	309.3	196.7	58.3	6S	130W
-1643	Oct 16	23:39:05	38133	2366	-45049	10	T-	-p	-0.2603	2.4333	1.3283	374.2	227.0	84.6	4N	163E
-1642	Apr 12	12:27:51	38122	2365	-45043	15	T	p-	-0.3467	2.1950	1.2482	311.0	200.0	69.3	3S	27W
-1642	Oct 05	23:46:53	38112	2363	-45037	20	T	h-	0.4281	2.1112	1.0346	353.2	207.9	29.8	0S	161E
-1641	Mar 03	16:39:14	38103	2361	-45032	-13	Ne	-h	1.5582	0.0110	-1.0129	30.6	-	-	14N	86W
-1641	Apr 02	03:25:11	38101	2361	-45031	25	N	h-	-1.1231	0.7911	-0.1967	232.4	-	-	0N	109E
-1641	Sep 25	06:28:10	38090	2360	-45025	30	N	a-	1.0990	0.8504	-0.1672	242.7	-	-	4S	61E
-1640	Feb 20	21:14:50	38081	2358	-45020	-3	P	-t	0.8801	1.2812	0.2056	308.9	108.0	-	17N	155W
-1640	Aug 15	10:47:23	38071	2356	-45014	2	P	-a	-0.8799	1.2207	0.2661	261.6	108.3	-	20S	2W
-1639	Feb 08	21:07:12	38060	2355	-45008	7	T+	pp	0.1637	2.6008	1.5151	373.6	231.8	98.1	19N	153W
-1639	Aug 05	02:56:34	38049	2353	-45002	12	T-	-p	-0.1806	2.5121	1.5407	324.1	211.4	92.6	21S	115E
-1638	Jan 28	23:42:45	38039	2352	-44996	17	P	a-	-0.5565	1.8613	0.8131	333.7	188.7	-	21N	167E
-1638	Jul 25	14:54:19	38028	2350	-44990	22	P	t-	0.5813	1.8016	0.7814	323.7	183.4	-	22S	65W
-1638	Dec 19	22:21:51	38019	2348	-44985	-11	N	-a	1.4632	0.1632	-0.8168	108.1	-	-	24N	177W
-1637	Jan 18	09:23:21	38017	2348	-44984	27	N	a-	-1.2267	0.6048	-0.3903	204.6	-	-	22N	21E
-1637	Jun 15	04:47:27	38008	2347	-44979	-6	N	-t	-1.4786	0.1801	-0.8896	130.2	-	-	23S	84E
-1637	Jul 14	19:48:43	38007	2347	-44978	32	N	t-	1.3744	0.3694	-0.6962	181.3	-	-	23S	140W
-1637	Dec 09	14:00:40	37998	2345	-44973	-1	P	-a	0.8024	1.3723	0.3990	274.4	130.2	-	22N	53W
-1636	Jun 03	05:53:00	37987	2343	-44967	4	P	-t	-0.7114	1.5782	0.5276	326.6	163.4	-	20S	67E
-1636	Nov 28	04:05:26	37976	2342	-44961	9	T+	-p	0.1427	2.6015	1.5907	334.7	215.3	95.2	19N	95E

-1635	May 23	12:40:37	37966	2340	-44955	14	T+	pp	0.0887	2.6944	1.6960	342.0	222.0	101.1	17S	34W
-1635	Nov 17	12:15:50	37955	2339	-44949	19	P	t-	-0.5709	1.8453	0.7762	337.2	186.7	-	15N	28W
-1634	May 13	02:24:30	37944	2337	-44943	24	P	a-	0.8363	1.2992	0.3476	270.9	123.9	-	13S	120E
-1634	Nov 06	13:20:51	37934	2335	-44937	29	N	t-	-1.2760	0.5701	-0.5358	225.3	-	-	11N	44W
-1633	Apr 03	12:33:25	37925	2334	-44932	-4	P	-a	-0.9578	1.0784	0.1224	253.2	75.9	-	0S	29W
-1633	Sep 26	19:39:09	37914	2332	-44926	1	N	-t	1.0510	0.9595	-0.0998	267.8	-	-	4S	137W
-1632	Mar 23	02:02:11	37903	2331	-44920	6	T-	-p	-0.2328	2.4336	1.4280	339.4	216.6	88.9	5N	130E
-1632	Sep 15	04:33:19	37893	2329	-44914	11	T	-p	0.2984	2.3101	1.3108	328.1	207.7	77.3	8S	90E
-1631	Mar 12	08:27:58	37882	2327	-44908	16	P	t-	0.5406	1.8969	0.8359	345.1	195.3	-	10N	35E
-1631	Sep 04	19:17:51	37871	2326	-44902	21	T	p-	-0.4027	2.0999	1.1378	308.5	194.1	53.1	13S	131W
-1630	Mar 01	09:03:18	37861	2324	-44896	26	N	t-	1.2833	0.5448	-0.5375	219.6	-	-	14N	27E
-1630	Jul 27	02:10:41	37852	2323	-44891	-7	Ne	-a	1.5195	0.0607	-0.9209	68.1	-	-	21S	125E
-1630	Aug 25	11:29:40	37850	2322	-44890	31	N	a-	-1.0990	0.8258	-0.1431	227.9	-	-	17S	14W
-1629	Jan 19	20:38:56	37841	2321	-44885	-2	P	-h	-0.8856	1.2503	0.2160	288.5	105.2	-	22N	149W
-1629	Jul 16	12:23:17	37831	2319	-44879	3	P	-h	0.8393	1.3350	0.3013	300.3	124.9	-	23S	29W
-1628	Jan 09	08:04:28	37820	2318	-44873	8	T-	-p	-0.1453	2.5834	1.5990	325.7	211.9	94.5	24N	39E
-1628	Jul 04	15:34:28	37809	2316	-44867	13	T+	pp	0.0952	2.7190	1.6484	373.1	234.4	103.9	24S	78W
-1628	Dec 28	23:35:10	37799	2314	-44861	18	P	a-	0.5317	1.8662	0.8985	300.0	179.8	-	24N	165E
-1627	Jun 23	16:05:33	37788	2313	-44855	23	P	t-	-0.6585	1.6807	0.6193	336.4	175.7	-	24S	86W
-1627	Nov 19	01:44:25	37779	2311	-44850	-10	N	-a	-1.5530	0.0224	-1.0051	42.8	-	-	15N	130E
-1627	Dec 18	14:34:09	37777	2311	-44849	28	N	a-	1.2262	0.6063	-0.3903	203.8	-	-	24N	61W
-1626	May 14	11:32:00	37768	2310	-44844	-5	N	-h	1.2517	0.5526	-0.4303	198.7	-	-	13S	17W
-1626	Jun 12	21:16:11	37767	2309	-44843	33	N	h-	-1.3800	0.3322	-0.6802	162.8	-	-	23S	165W
-1626	Nov 08	07:46:55	37758	2308	-44838	0	P	-h	-0.9337	1.1870	0.1032	297.4	76.7	-	12N	39E
-1625	May 04	02:38:02	37747	2306	-44832	5	T	-a	0.4644	1.9778	1.0333	304.2	189.6	27.1	10S	117E
-1625	Oct 28	07:35:32	37737	2305	-44826	10	T-	-p	-0.2678	2.4204	1.3139	374.1	226.4	83.1	8N	41E
-1624	Apr 22	19:53:37	37726	2303	-44820	15	T	p-	-0.2753	2.3261	1.3793	314.6	205.0	82.0	7S	142W
-1624	Oct 16	07:51:17	37715	2301	-44814	20	T	a-	0.4171	2.1311	1.0549	352.9	208.6	37.3	4N	38E
-1623	Apr 12	10:39:04	37705	2300	-44808	25	N	h-	-1.0586	0.9103	-0.0789	247.2	-	-	4S	2W
-1623	Oct 05	14:50:01	37694	2298	-44802	30	N	a-	1.0829	0.8796	-0.1374	245.3	-	-	0N	67W
-1622	Mar 03	04:17:56	37685	2297	-44797	-3	P	-t	0.9354	1.1790	0.1050	300.1	78.4	-	13N	97E
-1622	Aug 26	18:56:41	37675	2295	-44791	2	P	-a	-0.9157	1.1563	0.1989	256.6	94.5	-	17S	126W
-1621	Feb 20	04:17:34	37664	2293	-44785	7	T+	pp	0.2097	2.5140	1.4331	371.2	229.6	93.2	16N	98E
-1621	Aug 16	10:48:10	37653	2292	-44779	12	T-	-p	-0.2259	2.4319	1.4549	324.2	209.8	88.0	19S	4W
-1620	Feb 09	07:23:41	37643	2290	-44773	17	P	a-	-0.5211	1.9229	0.8814	334.9	193.5	-	19N	51E
-1620	Aug 04	22:14:55	37632	2289	-44767	22	P	t-	0.5288	1.9012	0.8744	329.9	191.5	-	21S	177W
-1620	Dec 30	07:01:20	37623	2287	-44762	-11	N	a-	1.4688	0.1510	-0.8254	103.9	-	-	25N	53E
-1619	Jan 28	17:35:37	37621	2287	-44761	27	N	a-	-1.1993	0.6522	-0.3372	210.7	-	-	20N	103W
-1619	Jun 25	11:10:59	37613	2285	-44756	-6	Ne	-t	-1.5588	0.0341	-1.0378	57.5	-	-	25S	13W
-1619	Jul 25	02:36:00	37611	2285	-44755	32	N	t-	1.3118	0.4867	-0.5839	206.5	-	-	22S	117E

-1619	Dec 19	22:48:05	37602	2284	-44750	-1	P	-a	0.8075	1.3626	0.3899	273.9	129.0	-	24N	175E
-1618	Jun 14	12:24:51	37591	2282	-44744	4	P	-t	-0.7917	1.4301	0.3809	315.4	141.7	-	23S	32W
-1618	Dec 09	12:44:00	37581	2281	-44738	9	T+	-p	0.1441	2.5999	1.5872	335.8	215.8	95.3	22N	35W
-1617	Jun 03	19:38:38	37570	2279	-44732	14	T+	pp	0.0100	2.8373	1.8419	341.0	222.1	102.7	20S	141W
-1617	Nov 28	20:33:56	37559	2277	-44726	19	P	t-	-0.5721	1.8444	0.7728	338.3	186.9	-	18N	154W
-1616	May 23	09:41:51	37549	2276	-44720	24	P	a-	0.7591	1.4397	0.4900	279.8	143.7	-	16S	9E
-1616	Nov 16	21:22:41	37538	2274	-44714	29	N	t-	-1.2744	0.5735	-0.5333	226.1	-	-	14N	166W
-1615	Apr 13	20:00:08	37529	2273	-44709	-4	N	-a	-1.0271	0.9513	-0.0050	241.6	-	-	4S	143W
-1615	May 13	02:56:17	37528	2272	-44708	34	N	a-	1.4721	0.1272	-0.8141	94.3	-	-	12S	111E
-1615	Oct 07	03:44:51	37519	2271	-44703	1	N	-t	1.0604	0.9420	-0.1168	265.1	-	-	1N	99E
-1614	Apr 03	09:13:23	37508	2269	-44697	6	T	-a	-0.3005	2.3101	1.3033	338.1	213.2	78.6	0N	20E
-1614	Sep 26	12:55:09	37498	2268	-44691	11	T	-p	0.3142	2.2811	1.2818	326.5	206.0	74.2	4S	38W
-1613	Mar 23	15:19:12	37487	2266	-44685	16	P	t-	0.4758	2.0154	0.9551	351.0	204.8	-	5N	70W
-1613	Sep 16	03:42:08	37476	2264	-44679	21	T	p-	-0.3788	2.1449	1.1806	309.7	195.9	59.9	9S	101E
-1612	Mar 11	15:53:23	37466	2263	-44673	26	N	t-	1.2232	0.6532	-0.4251	237.6	-	-	10N	78W
-1612	Sep 04	19:41:14	37455	2261	-44667	31	N	a-	-1.0715	0.8787	-0.0952	234.5	-	-	14S	138W
-1611	Jan 30	04:34:40	37446	2260	-44662	-2	P	-h	-0.9092	1.2038	0.1760	283.2	95.2	-	20N	92E
-1611	Jul 26	19:28:44	37436	2258	-44656	3	P	-h	0.9029	1.2214	0.1815	292.3	98.9	-	22S	136W
-1610	Jan 19	16:29:52	37425	2257	-44650	8	T-	-p	-0.1625	2.5495	1.5700	324.2	211.1	93.3	23N	88W
-1610	Jul 15	22:10:35	37415	2255	-44644	13	T+	pp	0.1689	2.5855	1.5111	372.5	232.2	98.4	24S	178W
-1609	Jan 09	08:13:49	37404	2253	-44638	18	P	a-	0.5198	1.8870	0.9212	300.8	181.4	-	24N	35E
-1609	Jul 04	22:40:31	37393	2252	-44632	23	P	t-	-0.5798	1.8251	0.7636	343.6	190.1	-	24S	174E
-1609	Nov 30	10:19:23	37384	2250	-44627	-10	N	-a	-1.5575	0.0154	-1.0148	35.7	-	-	18N	0W
-1609	Dec 29	23:09:52	37383	2250	-44626	28	N	a-	1.2225	0.6135	-0.3836	205.4	-	-	25N	169E
-1608	May 24	18:35:52	37374	2249	-44621	-5	N	-h	1.3237	0.4189	-0.5607	174.5	-	-	16S	125W
-1608	Jun 23	04:12:52	37372	2248	-44620	33	N	h-	-1.3012	0.4756	-0.5347	191.4	-	-	24S	90E
-1608	Nov 18	15:58:22	37363	2247	-44615	0	P	-h	-0.9378	1.1808	0.0944	297.7	73.6	-	15N	86W
-1607	May 14	10:00:09	37353	2245	-44609	5	P	-a	0.5386	1.8409	0.8981	298.4	180.9	-	14S	4E
-1607	Nov 07	15:34:05	37342	2244	-44603	10	T	-p	-0.2734	2.4104	1.3031	373.9	225.9	82.0	12N	80W
-1606	May 04	03:16:46	37332	2242	-44597	15	T-	-p	-0.2020	2.4608	1.5133	317.5	208.9	90.8	11S	105E
-1606	Oct 27	16:01:26	37321	2241	-44591	20	T	a-	0.4105	2.1427	1.0676	352.3	208.9	41.1	8N	87W
-1605	Apr 23	17:46:09	37310	2239	-44585	25	P	h-	-0.9891	1.0386	0.0475	261.5	49.6	-	8S	112W
-1605	Oct 16	23:18:59	37300	2237	-44579	30	N	a-	1.0720	0.8992	-0.1168	246.7	-	-	5N	164E
-1604	Mar 13	11:09:58	37291	2236	-44574	-3	Nx	-t	0.9989	1.0616	-0.0107	288.7	-	-	9N	8W
-1604	Sep 06	03:14:47	37280	2234	-44568	2	P	-a	-0.9446	1.1049	0.1444	252.4	81.1	-	13S	108E
-1603	Mar 02	11:16:44	37270	2233	-44562	7	T+	pp	0.2654	2.4093	1.3335	368.1	226.1	85.1	13N	9W
-1603	Aug 26	18:48:27	37259	2231	-44556	12	T-	-p	-0.2634	2.3660	1.3833	324.3	208.2	83.1	16S	126W
-1602	Feb 19	14:56:26	37249	2229	-44550	17	P	a-	-0.4777	1.9990	0.9642	336.4	198.8	-	16N	64W
-1602	Aug 16	05:42:02	37238	2228	-44544	22	P	t-	0.4825	1.9897	0.9561	335.3	197.9	-	18S	70E
-1601	Jan 10	15:36:11	37229	2227	-44539	-11	N	-a	1.4788	0.1307	-0.8418	96.6	-	-	25N	76W

-1601	Feb 09	01:41:41	37228	2226	-44538	27	N	a-	-1.1662	0.7100	-0.2736	217.7	-	-	18N	134E
-1601	Aug 05	09:29:38	37217	2225	-44532	32	N	t-	1.2541	0.5950	-0.4807	226.6	-	-	20S	13E
-1601	Dec 31	07:31:32	37208	2223	-44527	-1	P	-a	0.8156	1.3472	0.3754	273.1	127.0	-	25N	44E
-1600	Jun 24	19:00:21	37198	2222	-44521	4	P	-t	-0.8696	1.2868	0.2386	303.2	114.3	-	24S	132W
-1600	Dec 19	21:19:20	37187	2220	-44515	9	T+	-p	0.1475	2.5943	1.5803	336.8	216.2	95.3	23N	165W

16TH CENTURY BCE

In the 16th century BCE the total number of lunar eclipses was 226 lunar eclipses:
85 penumbral lunar eclipses, 54 partial lunar eclipses, 87 total lunar eclipses
(25 central total lunar eclipses, 62 non-central total lunar eclipses).

CALENDAR		TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG	
GREATEST		S									m	m	m	°	°	
ECLIPSE																
-1599	Jun 14	02:40:47	37177	2218	-44509	14	T-	pp	-0.0662	2.7329	1.7399	339.2	220.9	101.4	22S	112E
-1599	Dec 09	04:48:50	37166	2217	-44503	19	P	t-	-0.5712	1.8469	0.7735	339.5	187.4	-	21N	82E
-1598	Jun 03	17:02:45	37156	2215	-44497	24	P	a-	0.6843	1.5763	0.6280	287.4	159.0	-	19S	103W
-1598	Nov 28	05:24:10	37145	2214	-44491	29	N	t-	-1.2723	0.5774	-0.5296	226.8	-	-	18N	72E
-1597	Apr 25	03:22:56	37136	2212	-44486	-4	N	-a	-1.0991	0.8198	-0.1375	228.0	-	-	9S	103E
-1597	May 24	10:18:33	37134	2212	-44485	34	N	a-	1.4022	0.2560	-0.6862	132.3	-	-	16S	2W
-1597	Oct 18	11:57:00	37126	2211	-44480	1	N	-h	1.0653	0.9325	-0.1253	263.1	-	-	5N	27W
-1596	Apr 13	16:17:50	37115	2209	-44474	6	T	-a	-0.3728	2.1782	1.1698	336.0	208.3	61.8	4S	89W
-1596	Oct 06	21:24:35	37104	2207	-44468	11	T	-p	0.3241	2.2628	1.2638	325.1	204.8	72.0	0N	168W
-1595	Apr 02	22:01:14	37094	2206	-44462	16	T	t-	0.4041	2.1469	1.0867	356.7	213.5	47.1	1N	174W
-1595	Sep 26	12:14:56	37083	2204	-44456	21	T	p-	-0.3619	2.1768	1.2106	310.6	197.1	64.0	5S	30W
-1594	Mar 22	22:35:27	37073	2203	-44450	26	N	t-	1.1562	0.7742	-0.3003	255.2	-	-	6N	179E
-1594	Sep 16	04:00:15	37062	2201	-44444	31	N	a-	-1.0507	0.9195	-0.0593	239.6	-	-	10S	95E
-1593	Feb 10	12:22:46	37053	2200	-44439	-2	P	-h	-0.9395	1.1447	0.1236	276.6	80.2	-	18N	27W
-1593	Aug 07	02:41:05	37043	2198	-44433	3	P	-h	0.9596	1.1207	0.0742	284.5	64.4	-	20S	114E

-1592	Jan 31	00:46:34	37032	2196	-44427	8	T-	-p	-0.1875	2.5010	1.5265	322.4	209.9	91.3	21N	147E
-1592	Jul 26	04:53:33	37022	2195	-44421	13	T+	pp	0.2368	2.4630	1.3845	371.3	228.9	90.0	22S	81E
-1591	Jan 19	16:44:31	37011	2193	-44415	18	P	a-	0.5014	1.9196	0.9561	302.1	183.8	-	23N	93W
-1591	Jul 15	05:23:39	37001	2192	-44409	23	P	t-	-0.5068	1.9594	0.8974	349.2	200.8	-	24S	72E
-1591	Dec 10	18:51:09	36992	2190	-44404	-10	N	-a	-1.5640	0.0046	-1.0276	19.5	-	-	20N	129W
-1590	Jan 09	07:38:11	36990	2190	-44403	28	N	a-	1.2135	0.6301	-0.3672	208.4	-	-	25N	42E
-1590	Jun 05	01:42:55	36982	2189	-44398	-5	N	-a	1.3938	0.2890	-0.6879	146.2	-	-	19S	126E
-1590	Jul 04	11:17:05	36980	2188	-44397	33	N	a-	-1.2272	0.6106	-0.3981	213.3	-	-	25S	17W
-1590	Nov 30	00:09:43	36971	2187	-44392	0	P	-t	-0.9413	1.1754	0.0872	297.9	71.0	-	18N	150E
-1589	May 25	17:21:15	36960	2185	-44386	5	P	-a	0.6139	1.7021	0.7604	291.7	170.2	-	17S	109W
-1589	Nov 18	23:36:00	36950	2184	-44380	10	T	-p	-0.2765	2.4047	1.2975	373.6	225.7	81.4	16N	158E
-1588	May 14	10:36:24	36939	2182	-44374	15	T-	pp	-0.1263	2.6004	1.6516	319.9	211.8	96.6	15S	7W
-1588	Nov 07	00:16:45	36929	2181	-44368	20	T	a-	0.4070	2.1482	1.0749	351.4	208.8	43.1	13N	147E
-1587	May 04	00:48:09	36918	2179	-44362	25	P	t-	-0.9162	1.1738	0.1801	275.1	95.2	-	12S	140E
-1587	Oct 27	07:54:09	36908	2177	-44356	30	N	a-	1.0654	0.9106	-0.1040	247.2	-	-	9N	33E
-1586	Mar 24	17:54:35	36899	2176	-44351	-3	N	-t	1.0680	0.9342	-0.1367	274.7	-	-	5N	112W
-1586	Sep 17	11:39:33	36889	2174	-44345	2	P	-a	-0.9683	1.0629	0.0993	248.9	67.7	-	9S	21W
-1585	Mar 13	18:10:13	36878	2173	-44339	7	T	-p	0.3262	2.2952	1.2242	364.2	221.5	72.6	9N	115W
-1585	Sep 07	02:55:27	36867	2171	-44333	12	T	-p	-0.2949	2.3111	1.3227	324.4	206.6	78.0	12S	110E
-1584	Mar 01	22:21:35	36857	2170	-44327	17	T	a-	-0.4270	2.0885	1.0605	337.9	204.1	38.4	12N	177W
-1584	Aug 26	13:16:44	36846	2168	-44321	22	T	t-	0.4431	2.0653	1.0249	339.9	202.9	25.0	15S	45W
-1583	Jan 21	00:03:16	36838	2167	-44316	-11	N	-a	1.4956	0.0978	-0.8706	83.6	-	-	24N	157E
-1583	Feb 19	09:39:13	36836	2166	-44315	27	N	a-	-1.1254	0.7819	-0.1959	225.9	-	-	15N	13E
-1583	Aug 15	16:32:34	36825	2165	-44309	32	N	t-	1.2040	0.6895	-0.3912	242.4	-	-	18S	94W
-1582	Jan 10	16:06:50	36817	2163	-44304	-1	P	-a	0.8306	1.3191	0.3485	271.4	123.0	-	25N	86W
-1582	Jul 06	01:45:08	36806	2162	-44298	4	P	-t	-0.9407	1.1559	0.1085	290.7	78.3	-	25S	126E
-1582	Dec 31	05:48:02	36796	2160	-44292	9	T+	-p	0.1560	2.5793	1.5644	337.8	216.6	94.9	24N	68E
-1581	Jun 25	09:48:02	36785	2159	-44286	14	T-	pp	-0.1394	2.5977	1.6066	336.8	218.6	97.6	23S	4E
-1581	Dec 20	12:59:06	36775	2157	-44280	19	P	t-	-0.5671	1.8549	0.7805	340.8	188.5	-	23N	41W
-1580	Jun 14	00:25:33	36764	2155	-44274	24	P	a-	0.6102	1.7120	0.7643	293.9	171.2	-	21S	144E
-1580	Dec 08	13:23:09	36754	2154	-44268	29	N	t-	-1.2682	0.5847	-0.5215	228.1	-	-	20N	49W
-1579	May 05	10:40:13	36745	2152	-44263	-4	N	-a	-1.1749	0.6814	-0.2774	211.4	-	-	13S	9W
-1579	Jun 03	17:40:34	36743	2152	-44262	34	N	a-	1.3321	0.3856	-0.5584	160.7	-	-	19S	114W
-1579	Oct 28	20:16:51	36734	2151	-44257	1	N	-h	1.0650	0.9322	-0.1240	262.2	-	-	10N	154W
-1578	Apr 24	23:15:20	36724	2149	-44251	6	T	-h	-0.4497	2.0382	1.0277	332.7	201.3	26.2	8S	164E
-1578	Oct 18	06:00:45	36713	2148	-44245	11	T	-p	0.3292	2.2531	1.2548	324.0	203.9	70.8	5N	61E
-1577	Apr 14	04:35:57	36703	2146	-44239	16	T	pp	0.3269	2.2885	1.2284	361.8	221.1	73.1	3S	85E
-1577	Oct 07	20:54:36	36692	2144	-44233	21	T	p-	-0.3508	2.1982	1.2300	311.2	197.8	66.4	0S	162W
-1576	Apr 02	05:09:38	36682	2143	-44227	26	N	t-	1.0822	0.9081	-0.1627	272.1	-	-	2N	78E
-1576	Sep 26	12:26:34	36671	2141	-44221	31	N	a-	-1.0364	0.9481	-0.0355	243.3	-	-	5S	34W

-1575	Feb 20	20:03:54	36663	2140	-44216	-2	P	-h	-0.9765	1.0736	0.0591	268.6	55.8	-	15N	144W
-1575	Aug 17	10:00:12	36652	2138	-44210	3	Nx	-h	1.0099	1.0317	-0.0212	276.8	-	-	17S	3E
-1574	Feb 10	08:56:44	36642	2137	-44204	8	T-	-p	-0.2185	2.4416	1.4721	320.5	208.3	88.3	18N	23E
-1574	Aug 06	11:45:06	36631	2135	-44198	13	T	-p	0.2974	2.3538	1.2713	369.5	224.9	78.9	21S	23W
-1573	Jan 31	01:08:40	36621	2134	-44192	18	T	a-	0.4778	1.9617	1.0004	303.7	186.7	3.0	22N	140E
-1573	Jul 26	12:14:50	36610	2132	-44186	23	T	t-	-0.4395	2.0831	1.0205	353.5	208.8	23.3	23S	31W
-1572	Jan 20	15:58:55	36600	2130	-44180	28	N	a-	1.1993	0.6561	-0.3413	212.7	-	-	24N	84W
-1572	Jun 15	08:54:10	36591	2129	-44175	-5	N	-a	1.4609	0.1649	-0.8100	111.3	-	-	21S	17E
-1572	Jul 14	18:29:21	36589	2129	-44174	33	N	a-	-1.1588	0.7356	-0.2720	230.3	-	-	25S	126W
-1572	Dec 10	08:16:16	36581	2127	-44169	0	P	-t	-0.9479	1.1638	0.0746	297.5	65.9	-	21N	28E
-1571	Jun 05	00:44:56	36570	2126	-44163	5	P	-a	0.6873	1.5674	0.6260	284.4	157.7	-	20S	139E
-1571	Nov 29	07:36:49	36560	2124	-44157	10	T	-p	-0.2801	2.3975	1.2914	373.1	225.3	80.7	19N	36E
-1570	May 25	17:55:43	36549	2123	-44151	15	T-	pp	-0.0508	2.7399	1.7891	321.6	213.5	99.7	18S	119W
-1570	Nov 18	08:33:43	36539	2121	-44145	20	T	a-	0.4043	2.1519	1.0811	350.4	208.6	44.6	16N	21E
-1569	May 15	07:46:22	36528	2120	-44139	25	P	t-	-0.8410	1.3132	0.3164	287.7	124.2	-	15S	33E
-1569	Nov 07	16:33:28	36518	2118	-44133	30	N	a-	1.0616	0.9165	-0.0961	247.0	-	-	13N	99W
-1568	Apr 04	00:28:24	36509	2117	-44128	-3	N	-t	1.1448	0.7925	-0.2771	257.0	-	-	1N	147E
-1568	Sep 27	20:13:08	36499	2115	-44122	2	P	-a	-0.9849	1.0340	0.0675	246.5	56.1	-	4S	151W
-1567	Mar 24	00:54:33	36488	2113	-44116	7	T	-t	0.3949	2.1668	1.1007	359.2	214.9	50.7	5N	141E
-1567	Sep 17	11:10:31	36478	2112	-44110	12	T	-p	-0.3189	2.2698	1.2759	324.8	205.3	73.4	8S	15W
-1566	Mar 13	05:39:56	36467	2110	-44104	17	T	a-	-0.3698	2.1902	1.1687	339.4	209.2	61.8	8N	71E
-1566	Sep 06	20:59:36	36457	2109	-44098	22	T	p-	0.4114	2.1267	1.0798	343.7	206.7	44.0	11S	163W
-1565	Feb 01	08:24:16	36448	2107	-44093	-11	N	-a	1.5177	0.0551	-0.9090	62.9	-	-	22N	31E
-1565	Mar 02	17:30:17	36446	2107	-44092	27	N	a-	-1.0788	0.8646	-0.1076	234.7	-	-	11N	107W
-1565	Aug 26	23:43:07	36436	2106	-44086	32	N	t-	1.1600	0.7728	-0.3129	255.1	-	-	15S	156E
-1564	Jan 22	00:36:26	36427	2104	-44081	-1	P	-a	0.8501	1.2826	0.3134	269.0	117.4	-	23N	147E
-1564	Jul 16	08:37:05	36417	2103	-44075	4	Nx	-t	-1.0067	1.0347	-0.0125	277.8	-	-	25S	22E
-1563	Jan 10	14:09:33	36406	2101	-44069	9	T+	-p	0.1696	2.5545	1.5391	338.5	216.7	94.0	24N	58W
-1563	Jul 05	17:02:40	36396	2099	-44063	14	T-	pp	-0.2074	2.4723	1.4826	333.8	215.3	91.5	24S	105W
-1563	Dec 30	21:03:19	36385	2098	-44057	19	P	t-	-0.5585	1.8710	0.7962	342.5	190.3	-	23N	163W
-1562	Jun 25	07:53:10	36375	2096	-44051	24	P	a-	0.5398	1.8412	0.8935	299.3	180.8	-	23S	31E
-1562	Dec 19	21:18:20	36365	2095	-44045	29	N	t-	-1.2608	0.5974	-0.5073	230.3	-	-	22N	168W
-1561	May 16	17:55:56	36356	2093	-44040	-4	N	-a	-1.2513	0.5424	-0.4186	191.8	-	-	16S	120W
-1561	Jun 15	01:04:42	36354	2093	-44039	34	N	a-	1.2638	0.5121	-0.4343	183.3	-	-	21S	133E
-1561	Nov 09	04:39:57	36345	2092	-44034	1	N	-h	1.0626	0.9354	-0.1185	261.7	-	-	14N	79E
-1560	May 05	06:06:58	36335	2090	-44028	6	P	-h	-0.5302	1.8918	0.8786	328.3	191.9	-	12S	58E
-1560	Oct 28	14:42:06	36325	2089	-44022	11	T	-p	0.3306	2.2500	1.2528	323.0	203.4	70.4	9N	71W
-1559	Apr 24	11:04:31	36314	2087	-44016	16	T+	pp	0.2452	2.4387	1.3781	366.1	227.3	89.2	7S	15W
-1559	Oct 18	05:39:32	36304	2086	-44010	21	T	p-	-0.3440	2.2114	1.2417	311.6	198.2	67.8	4N	65E
-1558	Apr 13	11:38:51	36293	2084	-44004	26	Nx	t-	1.0034	1.0508	-0.0166	287.8	-	-	3S	22W

-1558	Oct 07	20:59:28	36283	2082	-43998	31	N	a-	-1.0279	0.9660	-0.0221	245.9	-	-	1S	164W
-1557	Mar 04	03:37:10	36274	2081	-43993	-2	N	-h	-1.0205	0.9894	-0.0183	258.9	-	-	11N	101E
-1557	Aug 28	17:27:13	36264	2080	-43987	3	N	-h	1.0527	0.9565	-0.1030	269.8	-	-	14S	110W
-1556	Feb 21	16:58:19	36253	2078	-43981	8	T-	-p	-0.2572	2.3681	1.4037	318.2	206.2	83.8	15N	99W
-1556	Aug 16	18:46:05	36243	2076	-43975	13	T	-t	0.3499	2.2596	1.1730	367.6	220.5	65.2	18S	130W
-1555	Feb 10	09:22:46	36232	2075	-43969	18	T	a-	0.4463	2.0185	1.0595	305.8	190.3	35.8	19N	15E
-1555	Aug 05	19:17:02	36222	2073	-43963	23	T	t-	-0.3806	2.1916	1.1282	356.4	214.5	56.2	21S	138W
-1554	Jan 31	00:11:01	36211	2072	-43957	28	N	a-	1.1792	0.6929	-0.3043	218.4	-	-	22N	153E
-1554	Jun 26	16:10:13	36203	2070	-43952	-5	Ne	-a	1.5247	0.0470	-0.9264	59.8	-	-	22S	93W
-1554	Jul 26	01:49:52	36201	2070	-43951	33	N	a-	-1.0960	0.8506	-0.1564	243.9	-	-	24S	123E
-1554	Dec 21	16:19:25	36192	2069	-43946	0	P	-t	-0.9566	1.1480	0.0585	296.6	58.6	-	22N	94W
-1553	Jun 16	08:10:18	36182	2067	-43940	5	P	-a	0.7592	1.4357	0.4939	276.3	142.8	-	21S	26E
-1553	Dec 10	15:36:56	36172	2066	-43934	10	T	-p	-0.2849	2.3878	1.2835	372.4	224.9	79.8	21N	84W
-1552	Jun 05	01:13:35	36161	2064	-43928	15	T+	pp	0.0256	2.7876	1.8341	322.7	214.1	100.2	20S	130E
-1552	Nov 28	16:52:50	36151	2062	-43922	20	T	a-	0.4025	2.1536	1.0861	349.2	208.3	45.8	20N	104W
-1551	May 25	14:42:42	36140	2061	-43916	25	P	t-	-0.7650	1.4547	0.4542	299.2	146.2	-	18S	73W
-1551	Nov 18	01:14:44	36130	2059	-43910	30	N	a-	1.0587	0.9205	-0.0895	246.6	-	-	17N	129E
-1550	Apr 15	06:57:44	36121	2058	-43905	-3	N	-t	1.2246	0.6457	-0.4229	235.5	-	-	3S	47E
-1550	Oct 09	04:52:35	36111	2056	-43899	2	P	-a	-0.9967	1.0137	0.0444	244.9	45.6	-	0S	77E
-1549	Apr 04	07:34:19	36100	2055	-43893	7	P	-t	0.4679	2.0305	0.9691	353.0	206.4	-	1N	39E
-1549	Sep 28	19:31:52	36090	2053	-43887	12	T	-p	-0.3372	2.2389	1.2395	325.4	204.3	69.4	4S	143W
-1548	Mar 23	12:52:43	36080	2052	-43881	17	T	a-	-0.3069	2.3026	1.2874	340.7	213.7	77.3	4N	40W
-1548	Sep 17	04:50:06	36069	2050	-43875	22	T	p-	0.3865	2.1757	1.1224	347.0	209.5	53.9	7S	78E
-1547	Mar 13	01:13:20	36059	2049	-43869	27	N	a-	-1.0246	0.9613	-0.0056	244.1	-	-	8N	135E
-1547	Sep 06	07:04:12	36048	2047	-43863	32	N	t-	1.1242	0.8408	-0.2496	264.9	-	-	11S	44E
-1546	Feb 01	08:57:00	36040	2046	-43858	-1	P	-a	0.8774	1.2319	0.2641	265.5	108.7	-	22N	21E
-1546	Jul 27	15:38:58	36029	2044	-43852	4	N	-t	-1.0655	0.9266	-0.1204	265.1	-	-	23S	84W
-1545	Jan 21	22:22:07	36019	2043	-43846	9	T+	-p	0.1903	2.5168	1.5011	339.1	216.6	92.4	23N	178E
-1545	Jul 17	00:24:46	36009	2041	-43840	14	T-	-p	-0.2704	2.3562	1.3674	330.5	211.4	83.2	24S	143E
-1544	Jan 11	04:58:36	35998	2040	-43834	19	P	t-	-0.5432	1.8990	0.8244	344.6	193.2	-	23N	78E
-1544	Jul 05	15:25:11	35988	2038	-43828	24	T	a-	0.4726	1.9648	1.0165	303.8	188.4	19.2	23S	83W
-1544	Dec 30	05:07:55	35977	2036	-43822	29	N	t-	-1.2486	0.6186	-0.4838	233.7	-	-	23N	74E
-1543	May 27	01:09:14	35969	2035	-43817	-4	N	-a	-1.3288	0.4017	-0.5623	167.9	-	-	19S	130E
-1543	Jun 25	08:31:23	35967	2035	-43816	34	N	a-	1.1978	0.6347	-0.3148	202.0	-	-	22S	20E
-1543	Nov 19	13:06:01	35958	2034	-43811	1	N	-h	1.0589	0.9408	-0.1102	261.4	-	-	17N	49W
-1542	May 16	12:55:10	35948	2032	-43805	6	P	-h	-0.6125	1.7423	0.7260	322.5	179.7	-	16S	46W
-1542	Nov 08	23:28:08	35938	2030	-43799	11	T	-p	0.3289	2.2522	1.2566	322.2	203.1	70.7	13N	155E
-1541	May 05	17:27:30	35927	2029	-43793	16	T+	pp	0.1593	2.5966	1.5353	369.4	231.9	99.5	11S	114W
-1541	Oct 29	14:29:50	35917	2027	-43787	21	T	p-	-0.3417	2.2164	1.2454	311.7	198.3	68.2	9N	70W
-1540	Apr 23	18:03:42	35906	2026	-43781	26	P	t-	0.9201	1.2022	0.1380	302.2	89.7	-	7S	121W

-1540	Oct 18	05:37:45	35896	2024	-43775	31	N	a-	-1.0244	0.9745	-0.0178	247.5	-	-	4N	64E
-1539	Mar 14	11:04:20	35887	2023	-43770	-2	N	-h	-1.0704	0.8947	-0.1066	247.5	-	-	7N	13W
-1539	Sep 08	01:02:18	35877	2021	-43764	3	N	-h	1.0880	0.8949	-0.1708	263.8	-	-	10S	134E
-1538	Mar 04	00:54:10	35867	2020	-43758	8	T	-p	-0.3011	2.2853	1.3255	315.5	203.4	77.3	12N	140E
-1538	Aug 28	01:55:17	35856	2018	-43752	13	T	-t	0.3955	2.1779	1.0875	365.5	216.0	47.7	15S	121E
-1537	Feb 21	17:30:07	35846	2017	-43746	18	T	p-	0.4093	2.0852	1.1283	308.1	194.0	51.5	16N	108W
-1537	Aug 17	02:29:09	35836	2015	-43740	23	T	t-	-0.3291	2.2865	1.2222	358.4	218.5	71.5	19S	113E
-1536	Feb 11	08:12:40	35825	2014	-43734	28	N	a-	1.1514	0.7439	-0.2532	225.9	-	-	20N	31E
-1536	Aug 05	09:20:36	35815	2012	-43728	33	N	a-	-1.0404	0.9524	-0.0542	254.5	-	-	22S	10E
-1535	Jan 01	00:14:34	35806	2011	-43723	0	P	-t	-0.9711	1.1211	0.0319	294.5	43.5	-	23N	147E
-1535	Jun 26	15:41:00	35796	2009	-43717	5	P	-a	0.8269	1.3118	0.3690	267.9	125.7	-	23S	88W
-1535	Dec 20	23:31:32	35786	2008	-43711	10	T	-p	-0.2943	2.3692	1.2676	371.4	224.1	78.0	23N	157E
-1534	Jun 16	08:34:28	35775	2006	-43705	15	T+	pp	0.0988	2.6549	1.6981	323.2	213.6	98.2	22S	18E
-1534	Dec 10	01:10:38	35765	2005	-43699	20	T	a-	0.3988	2.1582	1.0947	348.0	208.3	47.8	22N	130E
-1533	Jun 05	21:36:52	35754	2003	-43693	25	P	t-	-0.6880	1.5981	0.5933	309.7	164.1	-	21S	178W
-1533	Nov 29	09:57:20	35744	2001	-43687	30	N	a-	1.0564	0.9232	-0.0838	246.1	-	-	20N	3W
-1532	Apr 25	13:19:42	35735	2000	-43682	-3	N	-t	1.3092	0.4902	-0.5779	208.5	-	-	7S	51W
-1532	May 25	03:38:30	35734	2000	-43681	35	N	t-	-1.5077	0.1188	-0.9352	104.6	-	-	19S	91E
-1532	Oct 19	13:38:44	35725	1999	-43676	2	P	-a	-1.0033	1.0028	0.0311	244.1	38.3	-	4N	57W
-1531	Apr 14	14:07:45	35715	1997	-43670	7	P	-t	0.5465	1.8840	0.8269	345.5	195.3	-	4S	62W
-1531	Oct 09	04:00:38	35704	1995	-43664	12	T	-p	-0.3488	2.2203	1.2158	326.2	203.8	66.5	1N	88E
-1530	Apr 03	20:00:28	35694	1994	-43658	17	T-	p-	-0.2385	2.4250	1.4159	341.6	217.4	88.5	0N	150W
-1530	Sep 28	12:47:06	35684	1992	-43652	22	T	p-	0.3876	2.2135	1.1541	349.7	211.7	59.9	3S	44W
-1529	Mar 24	08:51:09	35673	1991	-43646	27	P	a-	-0.9655	1.0672	0.1053	253.4	70.8	-	4N	18E
-1529	Sep 17	14:33:27	35663	1989	-43640	32	N	t-	1.0949	0.8968	-0.1980	272.6	-	-	7S	70W
-1528	Feb 12	17:08:58	35654	1988	-43635	-1	P	-a	0.9114	1.1688	0.2024	260.8	96.2	-	19N	103W
-1528	Aug 06	22:50:04	35644	1986	-43629	4	N	-t	-1.1176	0.8311	-0.2161	252.7	-	-	22S	167E
-1527	Feb 01	06:25:51	35634	1985	-43623	9	T+	-p	0.2175	2.4669	1.4511	339.4	216.0	89.8	21N	57E
-1527	Jul 27	07:55:35	35623	1983	-43617	14	T	-p	-0.3268	2.2524	1.2641	327.0	206.9	72.9	23S	30E
-1526	Jan 21	12:45:23	35613	1982	-43611	19	P	t-	-0.5215	1.9385	0.8644	347.2	196.9	-	22N	39W
-1526	Jul 16	23:04:22	35603	1980	-43605	24	T	a-	0.4110	2.0784	1.1289	307.3	194.2	51.7	23S	162E
-1525	Jan 10	12:51:09	35592	1979	-43599	29	N	t-	-1.2311	0.6492	-0.4502	238.5	-	-	23N	42W
-1525	Jun 07	08:22:12	35584	1977	-43594	-4	N	-a	-1.4057	0.2623	-0.7051	138.0	-	-	22S	20E
-1525	Jul 06	16:01:28	35582	1977	-43593	34	N	a-	1.1349	0.7519	-0.2012	217.9	-	-	23S	94W
-1525	Nov 30	21:32:36	35574	1976	-43588	1	N	-h	1.0556	0.9451	-0.1024	260.8	-	-	21N	177W
-1524	May 26	19:41:04	35563	1974	-43582	6	P	-t	-0.6958	1.5914	0.5713	315.4	164.1	-	19S	150W
-1524	Nov 19	08:15:06	35553	1973	-43576	11	T	-p	0.3272	2.2544	1.2609	321.3	202.8	71.1	17N	22E
-1523	May 15	23:48:12	35543	1971	-43570	16	T+	pp	0.0718	2.7578	1.6952	371.7	234.6	105.1	15S	149E
-1523	Nov 08	23:22:49	35532	1970	-43564	21	T	p-	-0.3412	2.2176	1.2458	311.8	198.3	68.2	13N	155E
-1522	May 05	00:26:29	35522	1968	-43558	26	P	t-	0.8342	1.3584	0.2969	315.0	128.4	-	11S	140E

-1522	Oct 29	14:19:33	35512	1967	-43552	31	N	a-	-1.0243	0.9765	-0.0195	248.5	-	-	8N	69W
-1521	Mar 25	18:25:25	35503	1965	-43547	-2	N	-h	-1.1259	0.7897	-0.2055	233.9	-	-	3N	126W
-1521	Apr 24	04:56:39	35501	1965	-43546	36	Nb	h-	1.5464	0.0298	-0.9884	50.4	-	-	6S	74E
-1521	Sep 19	08:45:37	35493	1964	-43541	3	N	-h	1.1156	0.8472	-0.2245	259.0	-	-	6S	16E
-1520	Mar 14	08:40:38	35482	1962	-43535	8	T	-p	-0.3532	2.1873	1.2320	312.2	199.6	67.3	8N	21E
-1520	Sep 07	09:15:21	35472	1961	-43529	13	T	-t	0.4320	2.1128	1.0186	363.7	211.9	22.5	11S	9E
-1519	Mar 04	01:27:51	35462	1959	-43523	18	T	p-	0.3646	2.1663	1.2112	310.7	198.1	64.5	12N	130E
-1519	Aug 27	09:52:35	35451	1958	-43517	23	T	p-	-0.2860	2.3660	1.3009	359.6	221.2	80.6	15S	0E
-1518	Feb 21	16:05:11	35441	1956	-43511	28	N	a-	1.1169	0.8071	-0.1899	234.5	-	-	16N	89W
-1518	Aug 16	17:01:27	35431	1955	-43505	33	P	a-	-0.9921	1.0409	0.0345	262.7	42.4	-	19S	107W
-1517	Jan 12	08:03:46	35422	1953	-43500	0	Nx	-t	-0.9900	1.0861	-0.0022	291.4	-	-	23N	30E
-1517	Jul 07	23:14:58	35412	1952	-43494	5	P	-a	0.8921	1.1932	0.2487	259.0	105.0	-	23S	158E
-1516	Jan 01	07:23:12	35401	1950	-43488	10	T	-p	-0.3064	2.3454	1.2471	370.1	223.1	75.5	24N	38E
-1516	Jun 26	15:57:08	35391	1949	-43482	15	T+	-p	0.1698	2.5267	1.5658	323.0	212.0	93.9	23S	94W
-1516	Dec 20	09:26:01	35381	1947	-43476	20	T	a-	0.3925	2.1675	1.1087	346.8	208.5	50.9	24N	6E
-1515	Jun 16	04:32:43	35371	1946	-43470	25	P	t-	-0.6132	1.7377	0.7280	319.0	178.4	-	23S	77E
-1515	Dec 09	18:39:11	35360	1944	-43464	30	N	a-	1.0533	0.9270	-0.0763	245.6	-	-	23N	134W
-1514	May 06	19:39:44	35352	1943	-43459	-3	N	-t	1.3947	0.3331	-0.7347	174.5	-	-	11S	149W
-1514	Jun 05	10:04:03	35350	1943	-43458	35	N	t-	-1.4273	0.2679	-0.7890	155.3	-	-	22S	7W
-1514	Oct 30	22:27:45	35341	1941	-43453	2	P	-a	-1.0076	0.9959	0.0221	243.8	32.3	-	9N	169E
-1513	Apr 25	20:39:26	35331	1940	-43447	7	P	-t	0.6271	1.7341	0.6811	336.6	181.3	-	8S	163W
-1513	Oct 20	12:33:36	35321	1938	-43441	12	T	-p	-0.3564	2.2086	1.1994	327.2	203.6	64.4	5N	43W
-1512	Apr 14	03:03:47	35311	1937	-43435	17	T-	pp	-0.1652	2.5567	1.5531	341.9	220.1	96.3	4S	102E
-1512	Oct 08	20:50:44	35300	1935	-43429	22	T	p-	0.3547	2.2397	1.1749	352.0	213.2	63.5	1N	167W
-1511	Apr 03	16:23:08	35290	1934	-43423	27	P	a-	-0.9008	1.1838	0.2263	262.6	101.8	-	1S	97W
-1511	Sep 27	22:10:56	35280	1932	-43417	32	N	t-	1.0722	0.9404	-0.1583	278.4	-	-	3S	173E
-1510	Feb 23	01:11:32	35271	1931	-43412	-1	P	-a	0.9530	1.0918	0.1266	254.6	77.1	-	16N	134E
-1510	Aug 18	06:13:02	35261	1929	-43406	4	N	-t	-1.1609	0.7518	-0.2956	241.6	-	-	19S	55E
-1509	Feb 12	14:18:59	35251	1928	-43400	9	T+	-p	0.2528	2.4022	1.3863	339.3	214.9	85.5	18N	63W
-1509	Aug 07	15:35:18	35240	1926	-43394	14	T	-p	-0.3769	2.1605	1.1723	323.5	202.3	60.5	21S	86W
-1508	Feb 01	20:21:45	35230	1925	-43388	19	P	t-	-0.4917	1.9926	0.9195	350.3	201.5	-	20N	154W
-1508	Jul 27	06:50:36	35220	1923	-43382	24	T	p-	0.3549	2.1822	1.2310	310.1	198.6	66.9	22S	44E
-1507	Jan 20	20:25:28	35209	1922	-43376	29	N	t-	-1.2060	0.6935	-0.4024	245.1	-	-	22N	156W
-1507	Jun 17	15:36:26	35201	1921	-43371	-4	N	-a	-1.4808	0.1267	-0.8449	97.5	-	-	24S	90W
-1507	Jul 16	23:37:18	35199	1920	-43370	34	N	a-	1.0769	0.8605	-0.0968	231.1	-	-	22S	152E
-1507	Dec 11	05:59:16	35191	1919	-43365	1	N	-h	1.0534	0.9470	-0.0963	260.0	-	-	23N	56E
-1506	Jun 07	02:25:35	35180	1918	-43359	6	P	-t	-0.7790	1.4410	0.4166	307.0	144.0	-	21S	108E
-1506	Nov 30	17:03:23	35170	1916	-43353	11	T	-p	0.3250	2.2571	1.2662	320.5	202.6	71.6	20N	111W
-1505	May 27	06:06:56	35160	1915	-43347	16	T-	pp	-0.0171	2.8589	1.7949	372.7	235.5	106.5	18S	52E
-1505	Nov 20	08:17:48	35150	1913	-43341	21	T	p-	-0.3428	2.2150	1.2428	311.9	198.2	67.9	16N	20E

-1504	May 15	06:47:36	35139	1911	-43335	26	P	t-	0.7461	1.5189	0.4598	326.2	155.5	-	14S	43E
-1504	Nov 08	23:04:22	35129	1910	-43329	31	N	a-	-1.0273	0.9726	-0.0266	248.9	-	-	12N	158E
-1503	Apr 05	01:42:35	35120	1909	-43324	-2	N	-h	-1.1854	0.6777	-0.3118	218.1	-	-	2S	122E
-1503	May 04	11:47:38	35119	1908	-43323	36	N	h-	1.4664	0.1742	-0.8393	119.9	-	-	10S	32W
-1503	Sep 29	16:35:02	35110	1907	-43318	3	N	-h	1.1375	0.8099	-0.2673	255.1	-	-	2S	104W
-1502	Mar 25	16:22:55	35100	1906	-43312	8	T	-a	-0.4094	2.0823	1.1310	308.4	194.8	52.2	3N	97W
-1502	Sep 18	16:44:17	35090	1904	-43306	13	P	-t	0.4613	2.0608	0.9634	362.0	208.2	-	7S	105W
-1501	Mar 15	09:18:14	35079	1903	-43300	18	T	p-	0.3140	2.2584	1.3048	313.3	202.1	75.2	8N	10E
-1501	Sep 07	17:26:24	35069	1901	-43294	23	T-	p-	-0.2507	2.4312	1.3655	360.1	222.9	86.5	12S	115W
-1500	Mar 03	23:47:18	35059	1900	-43288	28	N	a-	1.0748	0.8845	-0.1127	244.3	-	-	13N	154E
-1500	Aug 27	00:53:17	35049	1898	-43282	33	P	a-	-0.9520	1.1145	0.1081	268.8	74.0	-	16S	134E

15TH CENTURY BCE

In the 15th century BCE the total number of lunar eclipses was 228 lunar eclipses:
**86 penumbral lunar eclipses, 60 partial lunar eclipses, 82 total lunar eclipses
(27 central total lunar eclipses, 55 non-central total lunar eclipses).**

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN	
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG	
GREATEST S																
ECLIPSE																
-1499	Jan 22	15:41:38	35040	1897	-43277	0	Nx	-t	-1.0172	1.0354	-0.0514	286.4	-	-	21N	86W
-1499	Jul 18	06:56:50	35030	1895	-43271	5	P	-a	0.9506	1.0869	0.1403	250.1	80.0	-	22S	41E
-1498	Jan 11	15:06:59	35020	1894	-43265	10	T	-p	-0.3248	2.3095	1.2153	368.3	221.5	71.3	23N	78W
-1498	Jul 07	23:23:37	35009	1892	-43259	15	T+	-p	0.2369	2.4059	1.4405	322.4	209.5	87.2	24S	154E
-1498	Dec 31	17:37:02	34999	1891	-43253	20	T	a-	0.3818	2.1845	1.1310	345.8	209.1	55.3	24N	117W
-1497	Jun 27	11:29:27	34989	1889	-43247	25	P	t-	-0.5402	1.8743	0.8593	327.2	190.2	-	24S	29W
-1497	Dec 21	03:17:51	34979	1888	-43241	30	N	a-	1.0468	0.9368	-0.0624	245.8	-	-	24N	96E
-1496	May 17	01:55:01	34970	1886	-43236	-3	N	-t	1.4834	0.1705	-0.8974	126.8	-	-	14S	115E
-1496	Jun 15	16:29:05	34968	1886	-43235	35	N	t-	-1.3463	0.4182	-0.6421	192.0	-	-	23S	104W

-1496	Nov 10	07:20:40	34960	1885	-43230	2	P	-a	-1.0089	0.9943	0.0190	243.9	30.0	-	13N	34E
-1495	May 06	03:08:29	34950	1883	-43224	7	P	-t	0.7105	1.5792	0.5298	326.2	163.5	-	11S	97E
-1495	Oct 30	21:10:23	34939	1882	-43218	12	T	-p	-0.3604	2.2034	1.1900	328.3	203.7	63.1	9N	174W
-1494	Apr 25	10:05:09	34929	1880	-43212	17	T-	pp	-0.0891	2.6937	1.6953	341.5	221.6	100.9	8S	6W
-1494	Oct 20	04:59:50	34919	1879	-43206	22	T	p-	0.3471	2.2563	1.1866	354.0	214.3	65.5	6N	69E
-1493	Apr 14	23:50:23	34909	1877	-43200	27	P	a-	-0.8314	1.3091	0.3556	271.5	125.1	-	5S	148E
-1493	Oct 09	05:56:12	34898	1876	-43194	32	N	t-	1.0557	0.9725	-0.1296	282.6	-	-	2N	55E
-1492	Mar 05	09:05:57	34890	1875	-43189	-1	P	-a	1.0010	1.0033	0.0391	246.9	43.4	-	12N	14E
-1492	Apr 03	16:51:27	34888	1874	-43188	37	Nb	a-	-1.5318	0.0198	-0.9254	37.6	-	-	1S	107W
-1492	Aug 28	13:46:14	34880	1873	-43183	4	N	-t	-1.1970	0.6856	-0.3620	231.5	-	-	16S	60W
-1491	Feb 22	22:02:14	34869	1872	-43177	9	T	-p	0.2957	2.3236	1.3076	338.8	212.9	78.8	15N	180E
-1491	Aug 17	23:25:10	34859	1870	-43171	14	T	-p	-0.4195	2.0823	1.0939	320.1	197.8	45.7	18S	155E
-1490	Feb 12	03:49:06	34849	1869	-43165	19	P	t-	-0.4549	2.0596	0.9876	353.6	206.7	-	18N	93E
-1490	Aug 07	14:43:55	34839	1867	-43159	24	T	p-	0.3043	2.2759	1.3228	312.3	201.9	76.6	20S	75W
-1489	Feb 01	03:52:11	34829	1866	-43153	29	N	t-	-1.1743	0.7497	-0.3422	253.1	-	-	20N	91E
-1489	Jul 28	07:18:48	34818	1864	-43147	34	N	a-	1.0236	0.9605	-0.0013	242.3	-	-	21S	35E
-1489	Dec 22	14:21:47	34810	1863	-43142	1	N	-h	1.0553	0.9411	-0.0973	258.3	-	-	24N	70W
-1488	Jun 17	09:11:03	34800	1861	-43136	6	P	-t	-0.8603	1.2942	0.2651	297.2	117.9	-	23S	5E
-1488	Dec 11	01:49:11	34789	1860	-43130	11	T	-p	0.3256	2.2544	1.2666	319.5	202.3	71.5	22N	117E
-1487	Jun 06	12:27:21	34779	1858	-43124	16	T-	pp	-0.1042	2.7001	1.6340	372.6	234.4	103.7	21S	44W
-1487	Nov 30	17:11:08	34769	1857	-43118	21	T	p-	-0.3428	2.2148	1.2428	311.9	198.3	67.9	19N	115W
-1486	May 26	13:10:46	34759	1855	-43112	26	P	t-	0.6585	1.6786	0.6214	335.6	175.9	-	17S	55W
-1486	Nov 20	07:49:57	34749	1854	-43106	31	N	a-	-1.0314	0.9665	-0.0354	249.1	-	-	16N	25E
-1485	Apr 16	08:54:33	34740	1853	-43101	-2	N	-h	-1.2499	0.5567	-0.4275	199.1	-	-	6S	11E
-1485	May 15	18:37:11	34738	1852	-43100	36	N	h-	1.3836	0.3241	-0.6852	160.6	-	-	14S	136W
-1485	Oct 11	00:32:20	34730	1851	-43095	3	N	-h	1.1524	0.7851	-0.2971	252.7	-	-	3N	135E
-1484	Apr 04	23:57:51	34720	1850	-43089	8	T	-a	-0.4724	1.9649	1.0172	303.8	188.5	19.5	1S	147E
-1484	Sep 29	00:23:14	34709	1848	-43083	13	P	-t	0.4824	2.0233	0.9231	360.7	205.3	-	2S	138E
-1483	Mar 25	16:59:57	34699	1847	-43077	18	T+	p-	0.2563	2.3639	1.4113	316.0	206.0	84.3	4N	108W
-1483	Sep 18	01:11:49	34689	1845	-43071	23	T-	p-	-0.2238	2.4807	1.4145	360.2	223.8	90.1	8S	127E
-1482	Mar 15	07:20:54	34679	1844	-43065	28	N	a-	1.0265	0.9732	-0.0242	254.8	-	-	9N	38E
-1482	Sep 07	08:54:12	34669	1842	-43059	33	P	a-	-0.9184	1.1761	0.1697	273.4	91.6	-	12S	12E
-1481	Feb 02	23:12:00	34660	1841	-43054	0	N	-t	-1.0500	0.9744	-0.1106	279.9	-	-	19N	161E
-1481	Jul 29	14:43:58	34650	1839	-43048	5	P	-a	1.0047	0.9889	0.0396	241.3	43.1	-	21S	77W
-1480	Jan 22	22:43:55	34640	1838	-43042	10	T	-p	-0.3494	2.2621	1.1724	366.0	219.3	64.7	22N	167E
-1480	Jul 18	06:54:35	34630	1836	-43036	15	T	-p	0.2996	2.2933	1.3229	321.4	206.2	78.1	23S	40E
-1479	Jan 11	01:43:14	34619	1835	-43030	20	T	a-	0.3663	2.2100	1.1622	345.0	210.1	60.8	24N	121E
-1479	Jul 07	18:30:20	34609	1833	-43024	25	P	t-	-0.4712	2.0038	0.9831	334.2	199.6	-	24S	135W
-1479	Dec 31	11:52:11	34599	1832	-43018	30	N	a-	1.0363	0.9538	-0.0409	246.7	-	-	25N	33W
-1478	May 28	08:12:18	34591	1831	-43013	-3	Ne	-t	1.5697	0.0124	-1.0560	34.6	-	-	17S	19E

-1478	Jun 26	22:58:41	34589	1830	-43012	35	N	t-	-1.2689	0.5620	-0.5019	220.1	-	-	25S	157E
-1478	Nov 21	16:13:51	34580	1829	-43007	2	P	-a	-1.0101	0.9928	0.0162	244.1	27.8	-	16N	101W
-1477	May 17	09:37:34	34570	1828	-43001	7	P	-t	0.7945	1.4235	0.3773	314.3	141.0	-	15S	2W
-1477	Nov 11	05:49:09	34560	1826	-42995	12	T	-p	-0.3621	2.2021	1.1851	329.5	204.0	62.5	13N	54E
-1476	May 05	17:05:16	34550	1825	-42989	17	T-	pp	-0.0111	2.8345	1.8407	340.4	221.8	102.6	12S	114W
-1476	Oct 30	13:12:06	34540	1823	-42983	22	T	p-	0.3427	2.2664	1.1925	355.6	215.1	66.5	10N	57W
-1475	Apr 25	07:14:36	34529	1822	-42977	27	P	a-	-0.7589	1.4405	0.4902	279.7	143.6	-	9S	34E
-1475	Oct 19	13:48:12	34519	1820	-42971	32	N	t-	1.0448	0.9938	-0.1109	285.4	-	-	6N	66W
-1474	Mar 16	16:51:36	34511	1819	-42966	-1	N	-a	1.0560	0.9021	-0.0615	237.1	-	-	8N	105W
-1474	Apr 15	00:24:03	34509	1819	-42965	37	N	a-	-1.4691	0.1344	-0.8099	96.9	-	-	6S	138E
-1474	Sep 08	21:30:13	34501	1818	-42960	4	N	-t	-1.2254	0.6337	-0.4141	223.1	-	-	12S	178W
-1473	Mar 06	05:34:50	34490	1816	-42954	9	T	-a	0.3464	2.2305	1.2143	337.6	209.9	68.1	11N	64E
-1473	Aug 29	07:25:00	34480	1815	-42948	14	T	-p	-0.4549	2.0177	1.0290	317.0	193.7	25.8	15S	33E
-1472	Feb 23	11:03:37	34470	1813	-42942	19	T	t-	-0.4082	2.1448	1.0740	357.4	212.5	43.6	14N	18W
-1472	Aug 17	22:46:15	34460	1812	-42936	24	T+	p-	0.2611	2.3564	1.4008	314.0	204.2	82.9	18S	163E
-1471	Feb 11	11:09:08	34450	1810	-42930	29	N	t-	-1.1342	0.8211	-0.2666	262.5	-	-	17N	19W
-1471	Aug 07	15:07:08	34440	1809	-42924	34	P	a-	0.9766	1.0494	0.0826	251.7	62.8	-	19S	83W
-1470	Jan 01	22:40:52	34431	1807	-42919	1	N	-h	1.0608	0.9283	-0.1047	255.7	-	-	25N	165E
-1470	Jun 28	15:58:38	34421	1806	-42913	6	P	-t	-0.9386	1.1531	0.1189	286.2	80.9	-	24S	98W
-1470	Dec 22	10:33:23	34411	1804	-42907	11	T	-p	0.3279	2.2483	1.2641	318.4	201.8	71.1	24N	15W
-1469	Jun 17	18:47:54	34401	1803	-42901	16	T-	pp	-0.1908	2.5423	1.4739	371.4	231.5	96.5	23S	141W
-1469	Dec 12	02:03:49	34390	1802	-42895	21	T	p-	-0.3425	2.2151	1.2436	312.0	198.4	68.0	22N	112E
-1468	Jun 05	19:36:01	34380	1800	-42889	26	P	t-	0.5715	1.8374	0.7817	343.4	191.6	-	20S	153W
-1468	Nov 30	16:34:23	34370	1799	-42883	31	N	a-	-1.0353	0.9605	-0.0436	249.2	-	-	19N	107W
-1467	Apr 26	16:05:13	34362	1797	-42878	-2	N	-h	-1.3162	0.4327	-0.5468	176.9	-	-	10S	99W
-1467	May 26	01:29:52	34360	1797	-42877	36	N	h-	1.3018	0.4723	-0.5335	190.3	-	-	17S	118E
-1467	Oct 21	08:34:16	34352	1796	-42872	3	N	-h	1.1630	0.7678	-0.3187	251.1	-	-	7N	12E
-1466	Apr 16	07:29:37	34341	1794	-42866	8	P	-a	-0.5381	1.8428	0.8979	298.5	180.7	-	5S	31E
-1466	Oct 10	08:08:32	34331	1793	-42860	13	P	-t	0.4984	1.9951	0.8927	359.6	202.9	-	2N	19E
-1465	Apr 06	00:35:40	34321	1791	-42854	18	T+	p-	0.1940	2.4779	1.5258	318.4	209.2	91.3	1S	136E
-1465	Sep 29	09:06:23	34311	1790	-42848	23	T-	p-	-0.2040	2.5172	1.4508	359.9	224.2	92.3	3S	6E
-1464	Mar 25	14:43:35	34301	1788	-42842	28	P	h-	0.9704	1.0766	0.0784	266.0	63.6	-	4N	75W
-1464	Sep 17	17:05:33	34291	1787	-42836	33	P	a-	-0.8929	1.2229	0.2165	276.5	102.5	-	8S	113W
-1463	Feb 13	06:30:14	34282	1786	-42831	0	N	-t	-1.0915	0.8971	-0.1858	271.0	-	-	17N	50E
-1463	Aug 08	22:39:29	34272	1784	-42825	5	N	-a	1.0519	0.9039	-0.0485	232.9	-	-	19S	163E
-1463	Sep 07	07:20:27	34270	1784	-42824	43	N	a-	-1.5292	0.0342	-0.9302	49.6	-	-	13S	34E
-1462	Feb 02	06:11:36	34262	1783	-42819	10	T	-t	-0.3817	2.2004	1.1157	363.0	216.1	54.0	20N	54E
-1462	Jul 29	14:31:51	34252	1781	-42813	15	T	-a	0.3561	2.1924	1.2165	320.2	202.5	66.4	22S	75W
-1461	Jan 22	09:42:22	34242	1780	-42807	20	T	a-	0.3442	2.2474	1.2059	344.4	211.6	67.4	23N	1E
-1461	Jul 19	01:34:19	34232	1778	-42801	25	T	t-	-0.4058	2.1269	1.1001	340.4	207.1	48.9	24S	119E

-1460	Jan 11	20:21:12	34221	1777	-42795	30	N	a-	1.0212	0.9790	-0.0106	248.4	-	-	25N	160W
-1460	Jul 07	05:31:45	34211	1775	-42789	35	N	t-	-1.1945	0.7007	-0.3674	243.1	-	-	25S	58E
-1460	Dec 02	01:06:37	34203	1774	-42784	2	P	-a	-1.0113	0.9908	0.0136	244.2	25.5	-	19N	125E
-1459	May 27	16:07:59	34193	1773	-42778	7	P	-t	0.8777	1.2695	0.2260	301.0	111.3	-	18S	102W
-1459	Nov 21	14:29:13	34183	1771	-42772	12	T	-p	-0.3617	2.2044	1.1843	330.8	204.5	62.6	17N	77W
-1458	May 17	00:05:16	34172	1770	-42766	17	T+	pp	0.0681	2.7280	1.7381	338.4	220.7	101.4	15S	139E
-1458	Nov 10	21:26:59	34162	1768	-42760	22	T	p-	0.3412	2.2710	1.1935	357.0	215.6	66.7	14N	178E
-1457	May 06	14:36:36	34152	1767	-42754	27	P	a-	-0.6841	1.5762	0.6287	287.1	158.9	-	13S	79W
-1457	Oct 30	21:45:17	34142	1765	-42748	32	Nx	t-	1.0376	1.0080	-0.0986	287.2	-	-	11N	173E
-1456	Mar 27	00:28:51	34134	1764	-42743	-1	N	-a	1.1174	0.7893	-0.1741	224.9	-	-	4N	138E
-1456	Apr 25	07:51:31	34132	1764	-42742	37	N	a-	-1.4024	0.2566	-0.6874	132.6	-	-	10S	23E
-1456	Sep 19	05:24:23	34124	1763	-42737	4	N	-h	-1.2465	0.5950	-0.4528	216.3	-	-	8S	61E
-1455	Mar 16	12:58:36	34113	1761	-42731	9	T	-a	0.4038	2.1255	1.1087	335.7	205.4	50.4	7N	49W
-1455	Sep 08	15:33:40	34103	1760	-42725	14	P	-a	-0.4836	1.9651	0.9761	314.2	189.9	-	11S	91W
-1454	Mar 05	18:09:36	34093	1758	-42719	19	T	p-	-0.3548	2.2420	1.1724	361.1	218.2	64.6	11N	126W
-1454	Aug 29	06:56:39	34083	1757	-42713	24	T+	p-	0.2246	2.4247	1.4666	315.3	205.9	87.2	14S	38E
-1453	Feb 22	18:16:58	34073	1755	-42707	29	N	t-	-1.0864	0.9066	-0.1765	272.9	-	-	14N	128W
-1453	Aug 18	23:02:29	34063	1754	-42701	34	P	a-	0.9357	1.1270	0.1550	259.5	85.4	-	17S	157E
-1452	Jan 13	06:53:42	34054	1753	-42696	1	N	-h	1.0722	0.9043	-0.1229	251.9	-	-	24N	42E
-1452	Jul 08	22:50:35	34044	1751	-42690	6	Nx	-t	-1.0123	1.0207	-0.0192	274.4	-	-	25S	158E
-1451	Jan 01	19:10:57	34034	1750	-42684	11	T	-p	0.3365	2.2305	1.2503	317.0	201.0	69.5	24N	144W
-1451	Jun 28	01:13:58	34024	1748	-42678	16	T	pp	-0.2728	2.3933	1.3221	369.1	226.9	84.5	24S	122E
-1451	Dec 22	10:52:09	34014	1747	-42672	21	T	p-	-0.3384	2.2223	1.2517	312.3	198.9	69.0	23N	21W
-1450	Jun 17	02:05:01	34004	1745	-42666	26	P	t-	0.4866	1.9927	0.9381	349.5	203.6	-	22S	108E
-1450	Dec 12	01:16:14	33994	1744	-42660	31	N	a-	-1.0376	0.9571	-0.0486	249.6	-	-	21N	122E
-1449	May 07	23:13:19	33986	1743	-42655	-2	N	-h	-1.3853	0.3037	-0.6716	149.4	-	-	14S	151E
-1449	Jun 06	08:24:10	33984	1742	-42654	36	N	h-	1.2197	0.6215	-0.3813	214.3	-	-	19S	13E
-1449	Nov 01	16:40:50	33975	1741	-42649	3	N	-t	1.1690	0.7585	-0.3316	250.6	-	-	11N	111W
-1448	Apr 26	14:55:41	33965	1740	-42643	8	P	-a	-0.6090	1.7116	0.7691	292.1	170.8	-	9S	83W
-1448	Oct 20	16:02:05	33955	1738	-42637	13	P	-t	0.5078	1.9788	0.8748	358.9	201.4	-	6N	101W
-1447	Apr 16	08:04:57	33945	1737	-42631	18	T+	pp	0.1267	2.6013	1.6492	320.5	211.9	96.5	5S	21E
-1447	Oct 09	17:09:26	33935	1735	-42625	23	T-	p-	-0.1903	2.5420	1.4760	359.2	224.2	93.6	1N	117W
-1446	Apr 05	21:59:20	33925	1734	-42619	28	P	h-	0.9093	1.1892	0.1898	277.2	97.7	-	0N	173E
-1446	Sep 29	01:25:38	33915	1733	-42613	33	P	a-	-0.8738	1.2578	0.2517	278.5	109.6	-	4S	119E
-1445	Feb 24	13:39:18	33906	1731	-42608	0	N	-t	-1.1400	0.8071	-0.2737	259.5	-	-	13N	59W
-1445	Aug 20	06:41:42	33896	1730	-42602	5	N	-a	1.0936	0.8290	-0.1267	225.1	-	-	16S	41E
-1445	Sep 18	15:45:16	33895	1730	-42601	43	N	a-	-1.5052	0.0792	-0.8871	75.1	-	-	9S	95W
-1444	Feb 13	13:31:43	33886	1728	-42596	10	T	-t	-0.4206	2.1263	1.0469	359.4	211.9	35.1	17N	57W
-1444	Aug 08	22:15:32	33876	1727	-42590	15	T	-a	0.4066	2.1026	1.1210	318.9	198.5	51.3	20S	168E
-1443	Feb 01	17:34:32	33866	1726	-42584	20	T	p-	0.3155	2.2968	1.2618	344.0	213.4	74.4	21N	118W

-1443	Jul 29	08:45:12	33856	1724	-42578	25	T	p-	-0.3470	2.2381	1.2049	345.5	213.0	67.8	22S	10E
-1442	Jan 22	04:44:22	33846	1723	-42572	30	P	a-	1.0008	1.0138	0.0293	251.0	37.9	-	23N	74E
-1442	Jul 18	12:10:24	33836	1721	-42566	35	N	t-	-1.1245	0.8311	-0.2411	262.0	-	-	24S	42W
-1442	Dec 13	09:56:30	33827	1720	-42561	2	P	-a	-1.0149	0.9844	0.0070	243.9	18.3	-	21N	9W
-1441	Jun 07	22:41:51	33817	1718	-42555	7	P	-t	0.9584	1.1203	0.0790	286.4	67.0	-	20S	158E
-1441	Dec 02	23:06:45	33807	1717	-42549	12	T	-p	-0.3631	2.2031	1.1806	331.9	204.8	62.2	20N	153E
-1440	May 27	07:06:56	33797	1716	-42543	17	T+	pp	0.1469	2.5816	1.5951	335.7	218.2	97.2	18S	32E
-1440	Nov 21	05:41:37	33787	1714	-42537	22	T	p-	0.3402	2.2743	1.1940	358.3	216.1	67.0	18N	53E
-1439	May 16	21:58:18	33777	1713	-42531	27	P	a-	-0.6083	1.7143	0.7688	293.7	171.5	-	16S	169E
-1439	Nov 10	05:44:30	33767	1711	-42525	32	Nx	t-	1.0320	1.0186	-0.0889	288.5	-	-	15N	52E
-1438	Apr 07	07:59:03	33759	1710	-42520	-1	N	-a	1.1840	0.6672	-0.2965	209.9	-	-	0S	23E
-1438	May 06	15:16:00	33757	1710	-42519	37	N	a-	-1.3334	0.3834	-0.5610	160.4	-	-	13S	90W
-1438	Sep 30	13:28:50	33749	1709	-42514	4	N	-h	-1.2602	0.5697	-0.4778	211.5	-	-	3S	62W
-1437	Mar 27	20:11:00	33739	1707	-42508	9	P	-a	0.4694	2.0055	0.9879	332.7	199.1	-	3N	159W
-1437	Sep 19	23:52:27	33729	1706	-42502	14	P	-a	-0.5047	1.9266	0.9372	312.0	186.9	-	7S	143E
-1436	Mar 16	01:03:31	33718	1704	-42496	19	T	pp	-0.2924	2.3560	1.2876	364.7	223.7	80.3	7N	128E
-1436	Sep 08	15:16:08	33708	1703	-42490	24	T+	p-	0.1956	2.4793	1.5185	316.2	207.0	89.9	10S	88W
-1435	Mar 05	01:15:22	33698	1701	-42484	29	Nx	t-	-1.0303	1.0071	-0.0715	284.1	-	-	10N	125E
-1435	Aug 29	07:05:58	33688	1700	-42478	34	P	a-	0.9021	1.1913	0.2139	265.8	99.7	-	14S	34E
-1434	Jan 23	15:01:34	33680	1699	-42473	1	N	-h	1.0887	0.8710	-0.1499	246.9	-	-	23N	81W
-1434	Jul 20	05:45:20	33670	1697	-42467	6	N	-t	-1.0825	0.8948	-0.1509	261.5	-	-	24S	54E
-1433	Jan 13	03:44:51	33660	1696	-42461	11	T	-p	0.3487	2.2061	1.2301	315.5	199.9	67.0	24N	87E
-1433	Jul 09	07:43:27	33650	1694	-42455	16	T	-t	-0.3519	2.2497	1.1756	365.9	220.7	65.8	24S	23E
-1432	Jan 02	19:35:39	33640	1693	-42449	21	T	p-	-0.3306	2.2359	1.2666	312.8	199.6	70.8	24N	152W
-1432	Jun 27	08:39:30	33630	1692	-42443	26	T	t-	0.4053	2.1415	1.0877	354.2	212.6	47.2	23S	8E
-1432	Dec 22	09:53:33	33620	1690	-42437	31	N	a-	-1.0368	0.9591	-0.0479	250.5	-	-	22N	8W
-1431	May 18	06:23:01	33611	1689	-42432	-2	N	-a	-1.4535	0.1768	-0.7951	114.9	-	-	17S	42E
-1431	Jun 16	15:24:12	33610	1689	-42431	36	N	a-	1.1411	0.7644	-0.2358	233.3	-	-	21S	93W
-1431	Nov 12	00:47:40	33601	1687	-42426	3	N	-t	1.1741	0.7506	-0.3424	250.1	-	-	15N	125E
-1430	May 07	22:21:25	33591	1686	-42420	8	P	-a	-0.6802	1.5800	0.6392	284.9	158.9	-	13S	163E
-1430	Oct 31	23:59:39	33581	1685	-42414	13	P	-t	0.5139	1.9679	0.8631	358.2	200.4	-	11N	138E
-1429	Apr 27	15:28:46	33571	1683	-42408	18	T+	pp	0.0554	2.7324	1.7796	322.1	213.6	99.5	9S	93W
-1429	Oct 21	01:19:58	33561	1682	-42402	23	T-	p-	-0.1821	2.5567	1.4915	358.4	224.0	94.2	6N	118E
-1428	Apr 16	05:06:37	33551	1680	-42396	28	P	t-	0.8421	1.3133	0.3123	288.4	123.6	-	4S	64E
-1428	Oct 09	09:53:43	33541	1679	-42390	33	P	a-	-0.8607	1.2816	0.2760	279.5	114.1	-	1N	10W
-1427	Mar 06	20:36:44	33533	1678	-42385	0	N	-t	-1.1970	0.7013	-0.3772	244.6	-	-	9N	166W
-1427	Aug 30	14:53:27	33523	1676	-42379	5	N	-a	1.1275	0.7686	-0.1906	218.3	-	-	13S	83W
-1427	Sep 29	00:18:44	33521	1676	-42378	43	N	a-	-1.4880	0.1115	-0.8564	88.8	-	-	4S	135E
-1426	Feb 23	20:42:48	33513	1675	-42373	10	P	-t	-0.4672	2.0381	0.9641	354.9	206.2	-	14N	166W
-1426	Aug 20	06:05:49	33503	1673	-42367	15	T	-a	0.4507	2.0248	1.0372	317.7	194.5	29.2	17S	49E

-1425	Feb 13	01:19:15	33493	1672	-42361	20	T	p-	0.2798	2.3589	1.3306	343.7	215.4	81.5	18N	125E
-1425	Aug 09	16:01:54	33483	1670	-42355	25	T	p-	-0.2941	2.3385	1.2986	349.9	217.5	79.4	20S	100W
-1424	Feb 02	12:59:11	33473	1669	-42349	30	P	a-	0.9733	1.0616	0.0825	254.6	63.0	-	21N	51W
-1424	Jul 28	18:56:08	33463	1668	-42343	35	N	t-	-1.0604	0.9511	-0.1257	277.5	-	-	23S	144W
-1424	Dec 23	18:42:56	33454	1666	-42338	2	N	-a	-1.0209	0.9734	-0.0039	243.2	-	-	23N	141W
-1423	Jun 18	05:20:18	33444	1665	-42332	7	N	-t	1.0361	0.9769	-0.0625	270.6	-	-	22S	57E
-1423	Dec 13	07:41:42	33434	1663	-42326	12	T	-a	-0.3657	2.1993	1.1747	333.0	205.1	61.4	22N	23E
-1422	Jun 07	14:11:45	33424	1662	-42320	17	T+	pp	0.2239	2.4390	1.4553	332.3	214.5	89.8	21S	76W
-1422	Dec 02	13:55:40	33414	1661	-42314	22	T	p-	0.3393	2.2770	1.1947	359.4	216.7	67.2	20N	71W
-1421	May 28	05:19:11	33404	1659	-42308	27	P	a-	-0.5316	1.8544	0.9102	299.5	181.9	-	19S	57E
-1421	Nov 21	13:46:28	33394	1658	-42302	32	Nx	t-	1.0287	1.0249	-0.0829	289.2	-	-	18N	70W
-1420	Apr 17	15:22:55	33386	1657	-42297	-1	N	-a	1.2549	0.5376	-0.4270	191.4	-	-	5S	91W
-1420	May 16	22:38:09	33384	1656	-42296	37	N	a-	-1.2630	0.5131	-0.4323	183.5	-	-	17S	157E
-1420	Oct 10	21:40:58	33376	1655	-42291	4	N	-h	-1.2685	0.5541	-0.4926	208.2	-	-	1N	173E
-1419	Apr 07	03:16:08	33366	1654	-42285	9	P	-h	0.5400	1.8767	0.8579	328.6	190.6	-	1S	92E
-1419	Sep 30	08:19:09	33356	1652	-42279	14	P	-a	-0.5196	1.8993	0.9098	310.1	184.6	-	3S	14E
-1418	Mar 27	07:49:56	33346	1651	-42273	19	T-	pp	-0.2241	2.4808	1.4135	367.9	228.5	91.9	3N	24E
-1418	Sep 19	23:42:23	33336	1649	-42267	24	T+	p-	0.1723	2.5234	1.5599	317.0	207.7	91.8	6S	143E
-1417	Mar 16	08:05:56	33326	1648	-42261	29	P	t-	-0.9673	1.1204	0.0464	295.3	52.7	-	6N	21E
-1417	Sep 09	15:16:42	33316	1647	-42255	34	P	a-	0.8750	1.2439	0.2610	271.0	109.6	-	10S	90W
-1416	Feb 03	23:00:07	33307	1645	-42250	1	N	-h	1.1134	0.8223	-0.1922	240.0	-	-	21N	159E
-1416	Jul 30	12:47:31	33297	1644	-42244	6	N	-t	-1.1456	0.7821	-0.2698	248.4	-	-	23S	53W
-1415	Jan 23	12:10:20	33287	1643	-42238	11	T	-p	0.3685	2.1676	1.1960	313.6	198.2	62.5	22N	40W
-1415	Jul 19	14:20:37	33277	1641	-42232	16	T	-t	-0.4243	2.1184	1.0411	362.0	213.4	33.2	24S	77W
-1414	Jan 13	04:11:48	33267	1640	-42226	21	T	p-	-0.3168	2.2605	1.2927	313.6	200.8	73.6	23N	79E
-1414	Jul 08	15:21:15	33258	1638	-42220	26	T	t-	0.3289	2.2815	1.2280	357.6	219.1	72.5	24S	93W
-1413	Jan 02	18:24:41	33247	1637	-42214	31	N	a-	-1.0319	0.9684	-0.0392	252.3	-	-	23N	136W
-1413	May 29	13:31:54	33239	1636	-42209	-2	Ne	-a	-1.5230	0.0479	-0.9211	60.3	-	-	20S	67W
-1413	Jun 27	22:28:08	33238	1635	-42208	36	N	a-	1.0644	0.9042	-0.0942	249.2	-	-	23S	160E
-1413	Nov 23	08:56:31	33229	1634	-42203	3	N	-t	1.1770	0.7462	-0.3488	250.1	-	-	19N	2E
-1412	May 18	05:44:21	33219	1633	-42197	8	P	-a	-0.7541	1.4439	0.5040	276.7	144.1	-	17S	50E
-1412	Nov 11	08:01:18	33209	1631	-42191	13	P	-t	0.5169	1.9624	0.8577	357.7	199.8	-	15N	16E
-1411	May 07	22:48:52	33199	1630	-42185	18	T-	pp	-0.0185	2.8008	1.8468	323.1	214.3	100.3	13S	155E
-1411	Oct 31	09:37:05	33189	1629	-42179	23	T-	p-	-0.1784	2.5628	1.4991	357.3	223.6	94.4	10N	8W
-1410	Apr 27	12:07:59	33179	1627	-42173	28	P	t-	0.7709	1.4450	0.4419	299.2	144.7	-	8S	44W
-1410	Oct 20	18:28:23	33169	1626	-42167	33	P	a-	-0.8525	1.2963	0.2915	279.8	116.6	-	5N	141W
-1409	Mar 18	03:26:03	33161	1625	-42162	0	N	-t	-1.2598	0.5848	-0.4914	226.0	-	-	5N	90E
-1409	Sep 10	23:12:15	33151	1623	-42156	5	N	-a	1.1553	0.7194	-0.2435	212.6	-	-	9S	150E
-1409	Oct 10	08:58:39	33149	1623	-42155	43	N	a-	-1.4764	0.1336	-0.8358	97.0	-	-	0N	3E
-1408	Mar 06	03:45:34	33141	1622	-42150	10	P	-t	-0.5208	1.9369	0.8684	349.4	198.8	-	10N	86E

-1408	Aug 30	14:03:48	33131	1620	-42144	15	P	-a	0.4874	1.9605	0.9669	316.7	190.7	-	13S	72W
-1407	Feb 23	08:57:14	33121	1619	-42138	20	T+	p-	0.2379	2.4323	1.4107	343.4	217.4	87.9	15N	9E
-1407	Aug 19	23:25:32	33111	1618	-42132	25	T-	pp	-0.2479	2.4265	1.3801	353.5	220.9	87.0	17S	147E
-1406	Feb 12	21:07:20	33101	1616	-42126	30	P	a-	0.9400	1.1201	0.1463	259.0	83.0	-	19N	174W
-1406	Aug 09	01:49:59	33091	1615	-42120	35	Nx	t-	-1.0030	1.0586	-0.0226	290.2	-	-	21S	111E
-1405	Jan 04	03:23:05	33083	1614	-42115	2	N	-a	-1.0319	0.9528	-0.0239	241.5	-	-	23N	89E
-1405	Jun 29	12:04:25	33073	1612	-42109	7	N	-t	1.1096	0.8413	-0.1968	253.8	-	-	23S	45W
-1405	Dec 24	16:10:49	33063	1611	-42103	12	T	-a	-0.3724	2.1878	1.1619	333.8	205.1	59.5	23N	104W
-1404	Jun 17	21:21:15	33053	1609	-42097	17	T	-p	0.2977	2.3024	1.3208	328.2	209.6	79.0	22S	175E
-1404	Dec 12	22:04:37	33043	1608	-42091	22	T	p-	0.3351	2.2853	1.2018	360.6	217.5	68.4	23N	166E
-1403	Jun 07	12:42:46	33033	1606	-42085	27	T	a-	-0.4568	1.9913	1.0478	304.2	190.2	32.3	21S	56W
-1403	Dec 01	21:47:33	33023	1605	-42079	32	Nx	t-	1.0249	1.0315	-0.0756	289.8	-	-	21N	169E
-1402	Apr 28	22:40:36	33015	1604	-42074	-1	N	-a	1.3301	0.4004	-0.5656	167.9	-	-	8S	157E
-1402	May 28	05:58:17	33013	1604	-42073	37	N	a-	-1.1912	0.6457	-0.3015	203.6	-	-	20S	45E
-1402	Oct 22	06:00:41	33005	1602	-42068	4	N	-h	-1.2714	0.5481	-0.4974	206.5	-	-	6N	46E
-1401	Apr 18	10:12:11	32995	1601	-42062	9	P	-h	0.6167	1.7367	0.7163	323.0	179.0	-	5S	15W
-1401	Oct 11	16:54:06	32985	1600	-42056	14	P	-a	-0.5286	1.8827	0.8933	308.7	183.0	-	2N	117W
-1400	Apr 06	14:25:43	32975	1598	-42050	19	T-	pp	-0.1475	2.6209	1.5544	370.6	232.3	100.3	2S	78W
-1400	Sep 30	08:17:07	32965	1597	-42044	24	T+	p-	0.1559	2.5548	1.5887	317.6	208.2	92.9	2S	12E

14TH CENTURY BCE

In the 14th century BCE the total number of lunar eclipses was 239 lunar eclipses:

**83 penumbral lunar eclipses, 90 partial lunar eclipses, 66 total lunar eclipses
(43 central total lunar eclipses, 23 non-central total lunar eclipses).**

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN	
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG	
			GREATEST	S						m	m	m	°	°		
				ECLIPSE												
-1399	Mar 26	14:49:17	32955	1595	-42038	29	P	t-	-0.8976	1.2461	0.1766	306.4	100.8	-	2N	83W

-1399	Sep 19	23:34:09	32945	1594	-42032	34	P	a-	0.8539	1.2853	0.2971	275.2	116.6	-	6S	143E
-1398	Feb 14	06:53:13	32937	1593	-42027	1	N	-h	1.1435	0.7639	-0.2441	231.6	-	-	18N	39E
-1398	Aug 10	19:55:16	32927	1591	-42021	6	N	-t	-1.2033	0.6795	-0.3786	234.9	-	-	21S	161W
-1397	Feb 03	20:29:34	32917	1590	-42015	11	T	-p	0.3938	2.1188	1.1518	311.3	195.9	55.8	20N	165W
-1397	Jul 30	21:03:57	32907	1589	-42009	16	P	-t	-0.4915	1.9968	0.9161	357.7	204.9	-	22S	178W
-1396	Jan 24	12:41:20	32897	1587	-42003	21	T	p-	-0.2978	2.2945	1.3284	314.6	202.3	77.1	22N	49W
-1396	Jul 18	22:11:32	32887	1586	-41997	26	T+	p-	0.2586	2.4105	1.3570	359.7	223.6	86.3	23S	164E
-1395	Jan 13	02:47:55	32877	1584	-41991	31	N	a-	-1.0213	0.9881	-0.0200	255.1	-	-	22N	98E
-1395	Jul 08	05:40:48	32867	1583	-41985	36	P	a-	0.9936	1.0334	0.0365	261.8	43.6	-	23S	51E
-1395	Dec 03	17:02:48	32859	1582	-41980	3	N	-t	1.1817	0.7383	-0.3579	249.5	-	-	22N	120W
-1394	May 29	13:08:13	32849	1580	-41974	8	P	-a	-0.8273	1.3095	0.3699	267.5	125.9	-	20S	63W
-1394	Nov 22	16:03:54	32839	1579	-41968	13	P	-t	0.5194	1.9574	0.8535	357.0	199.3	-	18N	106W
-1393	May 19	06:06:29	32829	1578	-41962	18	T-	pp	-0.0942	2.6630	1.7070	323.5	213.9	98.6	16S	43E
-1393	Nov 11	17:57:36	32820	1576	-41956	23	T-	p-	-0.1768	2.5646	1.5031	356.1	223.1	94.4	14N	135W
-1392	May 07	19:03:35	32810	1575	-41950	28	P	t-	0.6958	1.5842	0.5783	309.4	162.6	-	12S	151W
-1392	Oct 31	03:08:21	32800	1573	-41944	33	P	a-	-0.8479	1.3039	0.3005	279.6	118.0	-	9N	87E
-1391	Mar 28	10:06:03	32791	1572	-41939	0	N	-t	-1.3293	0.4565	-0.6177	202.2	-	-	1N	13W
-1391	Apr 27	00:54:09	32790	1572	-41938	38	N	t-	1.5131	0.1100	-0.9463	100.8	-	-	8S	123E
-1391	Sep 21	07:39:00	32781	1571	-41933	5	N	-a	1.1767	0.6821	-0.2844	208.1	-	-	5S	21E
-1391	Oct 20	17:44:04	32780	1571	-41932	43	N	a-	-1.4693	0.1473	-0.8233	101.6	-	-	5N	131W
-1390	Mar 17	10:40:45	32772	1570	-41927	10	P	-t	-0.5811	1.8236	0.7606	342.7	189.2	-	6N	20W
-1390	Sep 10	22:09:34	32762	1568	-41921	15	P	-a	0.5168	1.9095	0.9098	316.1	187.3	-	9S	164E
-1389	Mar 06	16:26:22	32752	1567	-41915	20	T+	p-	0.1876	2.5213	1.5064	343.1	219.3	93.8	11N	106W
-1389	Aug 31	06:57:04	32742	1565	-41909	25	T-	pp	-0.2090	2.5012	1.4481	356.7	223.4	92.1	14S	33E
-1388	Feb 24	05:06:59	32732	1564	-41903	30	P	a-	0.8991	1.1925	0.2239	264.2	101.4	-	15N	65E
-1388	Aug 19	08:52:54	32722	1563	-41897	35	P	t-	-0.9528	1.1530	0.0674	300.4	63.6	-	18S	4E
-1387	Jan 14	11:56:26	32714	1561	-41892	2	N	-a	-1.0483	0.9225	-0.0535	238.7	-	-	22N	40W
-1387	Jul 09	18:56:18	32704	1560	-41886	7	N	-t	1.1774	0.7163	-0.3208	236.4	-	-	23S	149W
-1386	Jan 04	00:34:55	32694	1559	-41880	12	T	-a	-0.3824	2.1699	1.1431	334.4	204.9	56.5	23N	129E
-1386	Jun 29	04:34:53	32684	1557	-41874	17	T	-p	0.3690	2.1708	1.1908	323.6	203.6	63.5	23S	66E
-1386	Dec 24	06:10:08	32674	1556	-41868	22	T	p-	0.3286	2.2974	1.2134	361.8	218.5	70.2	24N	44E
-1385	Jun 18	20:08:17	32664	1554	-41862	27	T	a-	-0.3836	2.1258	1.1822	308.2	196.7	60.5	23S	168W
-1385	Dec 13	05:46:16	32654	1553	-41856	32	Nx	t-	1.0188	1.0419	-0.0637	290.8	-	-	23N	49E
-1384	May 09	05:54:22	32646	1552	-41851	-1	N	-a	1.4076	0.2592	-0.7089	137.4	-	-	12S	46E
-1384	Jun 07	13:19:07	32644	1552	-41850	37	N	a-	-1.1203	0.7769	-0.1726	220.9	-	-	22S	67W
-1384	Nov 01	14:25:31	32636	1550	-41845	4	N	-h	-1.2712	0.5476	-0.4961	205.7	-	-	10N	82W
-1383	Apr 28	17:03:40	32626	1549	-41839	9	P	-t	0.6964	1.5916	0.5691	316.1	164.0	-	9S	121W
-1383	Oct 22	01:33:34	32616	1548	-41833	14	P	-a	-0.5345	1.8717	0.8827	307.5	181.9	-	6N	111E
-1382	Apr 17	20:56:32	32607	1546	-41827	19	T-	pp	-0.0672	2.7680	1.7020	372.4	234.7	105.2	6S	178W
-1382	Oct 11	16:57:35	32597	1545	-41821	24	T+	p-	0.1444	2.5771	1.6087	318.1	208.5	93.6	3N	120W

-1381	Apr 06	21:25:11	32587	1544	-41815	29	P	t-	-0.8211	1.3843	0.3190	317.2	132.5	-	2S	175E
-1381	Oct 01	07:58:48	32577	1542	-41809	34	P	a-	0.8393	1.3146	0.3212	278.4	121.1	-	1S	15E
-1380	Feb 25	14:37:02	32569	1541	-41804	1	N	-h	1.1817	0.6905	-0.3110	220.8	-	-	15N	78W
-1380	Mar 26	01:53:17	32567	1541	-41803	39	Nb	h-	-1.5238	0.0734	-0.9489	78.8	-	-	2N	109E
-1380	Aug 21	03:11:56	32559	1540	-41798	6	N	-t	-1.2527	0.5919	-0.4723	222.0	-	-	18S	89E
-1379	Feb 14	04:39:19	32549	1538	-41792	11	T	-p	0.4274	2.0548	1.0923	308.5	192.8	44.3	17N	71E
-1379	Aug 10	03:57:46	32539	1537	-41786	16	P	-t	-0.5501	1.8910	0.8070	353.2	196.1	-	20S	77E
-1378	Feb 03	21:02:12	32529	1535	-41780	21	T-	p-	-0.2718	2.3413	1.3770	315.8	204.2	81.3	20N	175W
-1378	Jul 30	05:10:09	32519	1534	-41774	26	T+	pp	0.1942	2.5288	1.4751	360.9	226.4	94.7	22S	58E
-1377	Jan 24	11:02:59	32509	1533	-41768	31	P	a-	-1.0049	1.0183	0.0101	258.9	22.8	-	21N	27W
-1377	Jul 19	13:00:11	32500	1531	-41762	36	P	a-	0.9270	1.1551	0.1591	272.1	89.3	-	22S	60W
-1377	Dec 15	01:06:12	32491	1530	-41757	3	N	-t	1.1880	0.7269	-0.3696	248.2	-	-	24N	118E
-1376	Jun 08	20:32:28	32481	1529	-41751	8	P	-a	-0.9002	1.1759	0.2359	257.3	102.4	-	22S	175W
-1376	Dec 03	00:07:25	32471	1527	-41745	13	P	-t	0.5215	1.9526	0.8504	356.3	198.8	-	21N	132E
-1375	May 29	13:22:43	32462	1526	-41739	18	T-	-p	-0.1702	2.5249	1.5662	323.2	212.3	94.1	19S	68W
-1375	Nov 22	02:20:38	32452	1525	-41733	23	T-	p-	-0.1765	2.5636	1.5050	354.8	222.5	94.3	17N	98E
-1374	May 19	01:56:07	32442	1523	-41727	28	P	t-	0.6190	1.7268	0.7177	318.8	177.7	-	16S	104E
-1374	Nov 11	11:52:25	32432	1522	-41721	33	P	a-	-0.8465	1.3056	0.3040	278.9	118.3	-	13N	45W
-1373	Apr 08	16:38:02	32424	1521	-41716	0	N	-t	-1.4043	0.3179	-0.7545	170.9	-	-	3S	114W
-1373	May 08	07:19:48	32422	1521	-41715	38	N	t-	1.4336	0.2566	-0.8009	152.3	-	-	12S	24E
-1373	Oct 02	16:12:38	32414	1519	-41710	5	N	-a	1.1923	0.6551	-0.3148	204.8	-	-	0S	109W
-1373	Nov 01	02:34:12	32412	1519	-41709	43	N	a-	-1.4662	0.1534	-0.8181	103.7	-	-	9N	95E
-1372	Mar 27	17:29:21	32404	1518	-41704	10	P	-t	-0.6472	1.6997	0.6419	334.7	177.0	-	2N	125W
-1372	Sep 21	06:21:56	32394	1517	-41698	15	P	-a	0.5401	1.8699	0.8643	315.8	184.6	-	5S	39E
-1371	Mar 16	23:50:05	32384	1515	-41692	20	T+	pp	0.1320	2.6201	1.6117	342.5	220.7	98.3	7N	141E
-1371	Sep 10	14:36:19	32375	1514	-41686	25	T-	pp	-0.1773	2.5626	1.5032	359.3	225.3	95.4	10S	84W
-1370	Mar 06	13:00:00	32365	1512	-41680	30	P	a-	0.8524	1.2756	0.3121	269.9	118.0	-	11N	56W
-1370	Aug 30	16:03:49	32355	1511	-41674	35	P	t-	-0.9092	1.2352	0.1453	308.7	92.4	-	15S	105W
-1369	Jan 25	20:21:47	32347	1510	-41669	2	N	-a	-1.0707	0.8808	-0.0942	234.7	-	-	21N	167W
-1369	Feb 24	05:29:53	32345	1510	-41668	40	N	a-	1.5280	0.0315	-0.9233	47.4	-	-	16N	57E
-1369	Jul 21	01:56:41	32337	1509	-41663	7	N	-t	1.2388	0.6035	-0.4330	218.7	-	-	22S	105E
-1368	Jan 15	08:49:03	32327	1507	-41657	12	T	-a	-0.3995	2.1387	1.1114	334.5	203.9	50.5	23N	6E
-1368	Jul 09	11:56:19	32317	1506	-41651	17	T	-a	0.4344	2.0503	1.0714	318.7	197.0	40.2	23S	45W
-1367	Jan 03	14:07:27	32307	1504	-41645	22	T	p-	0.3166	2.3194	1.2354	363.1	219.9	73.3	24N	75W
-1367	Jun 29	03:38:25	32297	1503	-41639	27	T	p-	-0.3140	2.2538	1.3095	311.3	201.7	75.6	24S	78E
-1367	Dec 23	13:40:26	32288	1502	-41633	32	Nx	t-	1.0092	1.0584	-0.0448	292.3	-	-	24N	70W
-1366	May 20	13:05:00	32279	1501	-41628	-1	Ne	-a	1.4864	0.1159	-0.8549	93.4	-	-	15S	63W
-1366	Jun 18	20:41:06	32278	1500	-41627	37	N	a-	-1.0510	0.9056	-0.0470	236.0	-	-	24S	178W
-1366	Nov 12	22:55:02	32270	1499	-41622	4	N	-a	-1.2679	0.5523	-0.4889	205.8	-	-	14N	149E
-1365	May 09	23:47:25	32260	1498	-41616	9	P	-t	0.7809	1.4378	0.4126	307.2	143.6	-	13S	136E

-1365	Nov 02	10:19:24	32250	1497	-41610	14	P	-a	-0.5356	1.8692	0.8810	306.7	181.4	-	10N	23W
-1364	Apr 28	03:20:10	32240	1495	-41604	19	T+	pp	0.0184	2.8575	1.7916	373.1	235.5	106.4	10S	83E
-1364	Oct 22	01:43:48	32230	1494	-41598	24	T+	p-	0.1379	2.5901	1.6196	318.5	208.6	93.9	7N	106E
-1363	Apr 17	03:57:02	32220	1492	-41592	29	P	t-	-0.7406	1.5300	0.4686	326.9	156.7	-	6S	75E
-1363	Oct 11	16:29:42	32211	1491	-41586	34	P	a-	0.8309	1.3325	0.3343	280.7	123.6	-	3N	115W
-1362	Mar 07	22:15:29	32202	1490	-41581	1	N	-h	1.2250	0.6078	-0.3872	207.9	-	-	11N	165E
-1362	Apr 06	08:57:20	32201	1490	-41580	39	N	h-	-1.4533	0.1997	-0.8166	128.0	-	-	2S	1E
-1362	Sep 01	10:34:46	32193	1489	-41575	6	N	-t	-1.2961	0.5154	-0.5550	209.5	-	-	14S	23W
-1361	Feb 25	12:42:59	32183	1487	-41569	11	T	-a	0.4665	1.9809	1.0227	305.3	188.8	22.4	14N	52W
-1361	Aug 21	11:00:00	32173	1486	-41563	16	P	-t	-0.6018	1.7978	0.7104	348.7	187.1	-	17S	30W
-1360	Feb 15	05:14:22	32163	1484	-41557	21	T-	p-	-0.2387	2.4011	1.4384	317.2	206.3	85.8	17N	60E
-1360	Aug 09	12:19:44	32153	1483	-41551	26	T+	pp	0.1378	2.6324	1.5783	361.3	228.0	99.5	20S	50W
-1359	Feb 03	19:08:56	32143	1482	-41545	31	P	a-	-0.9816	1.0610	0.0527	263.9	52.1	-	19N	149W
-1359	Jul 29	20:28:54	32134	1480	-41539	36	P	a-	0.8671	1.2647	0.2693	280.3	113.9	-	21S	173W
-1359	Dec 25	09:03:31	32125	1479	-41534	3	N	-t	1.1987	0.7071	-0.3892	245.6	-	-	25N	1W
-1358	Jun 20	04:00:23	32116	1478	-41528	8	P	-a	-0.9702	1.0481	0.1070	246.4	70.2	-	24S	72E
-1358	Jul 19	11:05:49	32114	1478	-41527	46	Nb	a-	1.5377	0.0125	-0.9397	30.0	-	-	22S	33W
-1358	Dec 14	08:07:40	32106	1476	-41522	13	P	-t	0.5265	1.9421	0.8426	355.1	197.9	-	23N	11E
-1357	Jun 09	20:38:18	32096	1475	-41516	18	T-	-p	-0.2459	2.3876	1.4256	322.2	209.4	86.4	22S	178W
-1357	Dec 03	10:43:53	32086	1474	-41510	23	T-	p-	-0.1756	2.5635	1.5085	353.3	222.0	94.3	20N	29W
-1356	May 29	08:46:09	32076	1472	-41504	28	P	t-	0.5410	1.8719	0.8588	327.4	190.4	-	19S	0W
-1356	Nov 21	20:37:15	32067	1471	-41498	33	P	a-	-0.8451	1.3069	0.3077	278.1	118.7	-	17N	178W
-1355	Apr 18	23:03:29	32058	1470	-41493	0	N	-t	-1.4837	0.1714	-0.8994	127.2	-	-	7S	147E
-1355	May 18	13:42:43	32057	1470	-41492	38	N	t-	1.3518	0.4075	-0.6517	189.7	-	-	15S	74W
-1355	Oct 13	00:53:10	32049	1469	-41487	5	N	-a	1.2025	0.6380	-0.3350	202.8	-	-	4N	118E
-1355	Nov 11	11:27:28	32047	1468	-41486	43	N	a-	-1.4656	0.1547	-0.8172	104.1	-	-	13N	40W
-1354	Apr 08	00:11:33	32039	1467	-41481	10	P	-t	-0.7189	1.5654	0.5128	325.2	161.1	-	3S	132E
-1354	Oct 02	14:41:18	32029	1466	-41475	15	P	-a	0.5567	1.8422	0.8309	316.0	182.5	-	1S	88W
-1353	Mar 28	07:06:43	32019	1464	-41469	20	T+	pp	0.0694	2.7318	1.7296	341.5	221.5	101.3	2N	29E
-1353	Sep 21	22:23:28	32009	1463	-41463	25	T-	pp	-0.1532	2.6100	1.5445	361.6	226.7	97.5	6S	157E
-1352	Mar 16	20:44:37	32000	1462	-41457	30	P	a-	0.7984	1.3722	0.4135	276.0	133.5	-	7N	174W
-1352	Sep 09	23:25:06	31990	1460	-41451	35	P	t-	-0.8740	1.3017	0.2078	315.1	109.5	-	11S	142E
-1351	Feb 05	04:39:19	31982	1459	-41446	2	N	-a	-1.0990	0.8285	-0.1456	229.3	-	-	18N	68E
-1351	Mar 06	13:28:22	31980	1459	-41445	40	N	a-	1.4867	0.1062	-0.8465	86.5	-	-	12N	64W
-1351	Jul 31	09:05:39	31972	1458	-41440	7	N	-t	1.2938	0.5023	-0.5339	200.8	-	-	20S	3W
-1351	Aug 29	23:35:32	31970	1458	-41439	45	N	t-	-1.5498	0.0502	-1.0210	68.3	-	-	15S	140E
-1350	Jan 25	16:55:59	31962	1457	-41434	12	T	-a	-0.4217	2.0981	1.0704	334.3	202.3	40.8	21N	117W
-1350	Jul 20	19:24:15	31952	1455	-41428	17	P	-a	0.4949	1.9390	0.9607	313.6	189.8	-	23S	158W
-1349	Jan 14	21:57:36	31942	1454	-41422	22	T	p-	0.2990	2.3513	1.2680	364.6	221.7	77.4	23N	167E
-1349	Jul 10	11:12:41	31933	1453	-41416	27	T-	p-	-0.2477	2.3761	1.4305	313.7	205.4	85.2	24S	36W

-1348	Jan 03	21:29:32	31923	1451	-41410	32	Nx	t-	0.9951	1.0828	-0.0174	294.4	-	-	25N	172E
-1348	Jun 29	04:06:30	31913	1450	-41404	37	P	a-	-0.9849	1.0289	0.0725	249.0	58.9	-	25S	70E
-1348	Nov 23	07:25:08	31905	1449	-41399	4	N	-a	-1.2650	0.5562	-0.4820	205.6	-	-	17N	20E
-1347	May 20	06:29:53	31895	1447	-41393	9	P	-t	0.8653	1.2845	0.2562	296.7	116.2	-	16S	33E
-1347	Nov 12	19:07:28	31885	1446	-41387	14	P	-a	-0.5353	1.8693	0.8824	306.0	181.2	-	14N	156W
-1346	May 09	09:40:25	31876	1445	-41381	19	T+	pp	0.1063	2.6962	1.6301	372.7	234.5	103.6	13S	14W
-1346	Nov 02	10:33:39	31866	1443	-41375	24	T+	p-	0.1345	2.5971	1.6250	318.8	208.8	94.1	11N	28W
-1345	Apr 28	10:24:50	31856	1442	-41369	29	P	t-	-0.6561	1.6832	0.6255	335.6	176.2	-	10S	25W
-1345	Oct 23	01:05:18	31846	1441	-41363	34	P	a-	0.8267	1.3425	0.3399	282.5	124.8	-	8N	114E
-1344	Mar 18	05:45:25	31838	1440	-41358	1	N	-h	1.2761	0.5111	-0.4779	191.5	-	-	7N	50E
-1344	Apr 16	15:56:17	31836	1439	-41357	39	N	h-	-1.3772	0.3364	-0.6743	163.3	-	-	7S	107W
-1344	Sep 11	18:07:36	31828	1438	-41352	6	N	-t	-1.3309	0.4545	-0.6217	198.6	-	-	10S	139W
-1343	Mar 07	20:38:09	31819	1437	-41346	11	P	-a	0.5133	1.8929	0.9389	301.3	183.4	-	10N	173W
-1343	Aug 31	18:12:17	31809	1435	-41340	16	P	-t	-0.6455	1.7193	0.6287	344.5	178.4	-	14S	140W
-1342	Feb 25	13:17:38	31799	1434	-41334	21	T-	p-	-0.1985	2.4741	1.5129	318.8	208.5	90.4	13N	62W
-1342	Aug 20	19:39:39	31789	1433	-41328	26	T+	pp	0.0889	2.7223	1.6678	361.2	228.6	102.1	17S	162W
-1341	Feb 15	03:04:02	31779	1431	-41322	31	P	a-	-0.9504	1.1183	0.1100	270.1	74.9	-	16N	91E
-1341	Aug 10	04:06:30	31770	1430	-41316	36	P	a-	0.8136	1.3628	0.3675	286.8	130.8	-	19S	71E
-1340	Jan 05	16:54:57	31762	1429	-41311	3	N	-t	1.2137	0.6790	-0.4162	241.6	-	-	25N	119W
-1340	Jun 30	11:31:21	31752	1428	-41305	8	N	-a	-1.0375	0.9256	-0.0173	234.7	-	-	25S	42W
-1340	Jul 29	18:51:41	31750	1427	-41304	46	N	a-	1.4824	0.1146	-0.8390	90.0	-	-	20S	151W
-1340	Dec 24	16:04:40	31742	1426	-41299	13	P	-t	0.5345	1.9258	0.8296	353.5	196.6	-	24N	108W
-1339	Jun 20	03:55:36	31732	1425	-41293	18	T	-a	-0.3196	2.2544	1.2885	320.5	205.3	74.9	23S	71E
-1339	Dec 13	19:07:02	31723	1424	-41287	23	T-	p-	-0.1737	2.5648	1.5140	351.9	221.6	94.5	22N	155W
-1338	Jun 09	15:34:23	31713	1422	-41281	28	T	t-	0.4624	2.0183	1.0010	335.0	201.0	5.0	21S	104W
-1338	Dec 03	05:23:23	31703	1421	-41275	33	P	a-	-0.8443	1.3069	0.3106	277.3	118.9	-	20N	50E
-1337	Apr 30	05:24:29	31695	1420	-41270	0	Ne	-t	-1.5661	0.0195	-1.0500	43.5	-	-	12S	50E
-1337	May 29	20:03:49	31693	1420	-41269	38	N	t-	1.2683	0.5617	-0.4995	220.0	-	-	18S	171W
-1337	Oct 24	09:38:12	31685	1418	-41264	5	N	-a	1.2088	0.6279	-0.3480	201.8	-	-	9N	15W
-1337	Nov 22	20:21:33	31684	1418	-41263	43	N	a-	-1.4660	0.1540	-0.8179	103.8	-	-	16N	175W
-1336	Apr 18	06:50:12	31675	1417	-41258	10	P	-t	-0.7940	1.4252	0.3773	314.2	140.8	-	7S	29E
-1336	Oct 12	23:06:11	31666	1416	-41252	15	P	-a	0.5681	1.8239	0.8074	316.5	181.1	-	4N	144E
-1335	Apr 07	14:20:22	31656	1414	-41246	20	T+	pp	0.0035	2.8497	1.8533	340.1	221.4	102.4	2S	82W
-1335	Oct 02	06:16:15	31646	1413	-41240	25	T-	pp	-0.1344	2.6473	1.5761	363.6	227.7	99.0	1S	37E
-1334	Mar 28	04:24:23	31636	1412	-41234	30	P	a-	0.7399	1.4775	0.5230	282.0	147.5	-	3N	68E
-1334	Sep 21	06:54:48	31627	1410	-41228	35	P	t-	-0.8457	1.3554	0.2578	320.0	121.2	-	6S	28E
-1333	Feb 16	12:46:23	31619	1409	-41223	2	N	-a	-1.1355	0.7611	-0.2121	221.7	-	-	15N	55W
-1333	Mar 17	21:17:24	31617	1409	-41222	40	N	a-	1.4382	0.1944	-0.7565	116.1	-	-	8N	176E
-1333	Aug 11	16:25:22	31609	1408	-41217	7	N	-t	1.3409	0.4158	-0.6202	183.6	-	-	18S	114W
-1333	Sep 10	07:07:28	31607	1408	-41216	45	N	t-	-1.5134	0.1175	-0.9546	103.7	-	-	11S	25E

-1332	Feb 06	00:51:25	31599	1407	-41211	12	T	-a	-0.4526	2.0415	1.0138	333.4	199.6	18.4	19N	123E
-1332	Jul 31	03:01:57	31589	1405	-41205	17	P	-a	0.5481	1.8413	0.8631	308.7	182.5	-	21S	86E
-1331	Jan 25	05:36:57	31580	1404	-41199	22	T	pp	0.2732	2.3981	1.3159	366.3	224.0	82.8	22N	51E
-1331	Jul 20	18:54:22	31570	1403	-41193	27	T-	p-	-0.1875	2.4874	1.5399	315.4	207.9	91.4	23S	152W
-1330	Jan 14	05:11:49	31560	1401	-41187	32	P	t-	0.9752	1.1173	0.0208	297.5	35.5	-	24N	57E
-1330	Jul 10	11:34:31	31551	1400	-41181	37	P	a-	-0.9215	1.1473	0.1867	260.4	93.2	-	25S	43W
-1330	Dec 04	15:57:07	31542	1399	-41176	4	N	-a	-1.2613	0.5611	-0.4733	205.7	-	-	20N	109W
-1329	May 31	13:08:28	31533	1398	-41170	9	P	-t	0.9512	1.1287	0.0967	284.2	73.3	-	19S	68W
-1329	Nov 24	03:57:54	31523	1396	-41164	14	P	-a	-0.5335	1.8715	0.8864	305.4	181.1	-	18N	70E
-1328	May 19	15:57:31	31513	1395	-41158	19	T+	pp	0.1964	2.5312	1.4645	371.1	231.4	96.0	17S	110W
-1328	Nov 12	19:26:52	31504	1394	-41152	24	T+	p-	0.1342	2.5983	1.6249	319.1	208.9	94.1	15N	163W
-1327	May 08	16:51:40	31494	1392	-41146	29	P	t-	-0.5698	1.8400	0.7856	343.1	191.7	-	14S	124W
-1327	Nov 02	09:44:18	31484	1391	-41140	34	P	a-	0.8260	1.3458	0.3392	283.7	125.0	-	12N	18W
-1326	Mar 29	13:11:36	31476	1390	-41135	1	N	-a	1.3309	0.4076	-0.5756	172.0	-	-	3N	64W
-1326	Apr 27	22:54:10	31474	1390	-41134	39	N	a-	-1.2990	0.4773	-0.5283	191.0	-	-	11S	146E
-1326	Sep 23	01:47:08	31466	1389	-41129	6	N	-t	-1.3595	0.4047	-0.6770	189.0	-	-	6S	104E
-1325	Mar 19	04:26:04	31457	1387	-41123	11	P	-a	0.5665	1.7935	0.8432	296.5	176.6	-	6N	68E
-1325	Sep 12	01:34:05	31447	1386	-41117	16	P	-t	-0.6815	1.6548	0.5613	340.8	170.3	-	10S	108E
-1324	Mar 07	21:12:31	31437	1385	-41111	21	T-	p-	-0.1517	2.5594	1.5995	320.4	210.6	94.4	10N	177E
-1324	Aug 31	03:10:22	31427	1383	-41105	26	T+	pp	0.0482	2.7973	1.7424	360.6	228.6	103.3	13S	84E
-1323	Feb 25	10:49:20	31418	1382	-41099	31	P	a-	-0.9121	1.1887	0.1803	277.3	95.2	-	13N	27W
-1323	Aug 20	11:54:27	31408	1381	-41093	36	P	a-	0.7678	1.4468	0.4515	291.7	142.7	-	16S	47W
-1322	Jan 16	00:37:54	31400	1379	-41088	3	N	-t	1.2350	0.6391	-0.4545	235.5	-	-	24N	125E
-1322	Jul 11	19:06:53	31390	1378	-41082	8	N	-a	-1.1009	0.8103	-0.1349	222.5	-	-	25S	157W
-1322	Aug 10	02:44:58	31389	1378	-41081	46	N	a-	1.4329	0.2064	-0.7489	119.6	-	-	18S	90E
-1321	Jan 04	23:56:01	31381	1377	-41076	13	P	-t	0.5476	1.8997	0.8076	351.4	194.5	-	24N	134E
-1321	Jul 01	11:15:21	31371	1376	-41070	18	T	-a	-0.3906	2.1265	1.1560	318.3	200.2	57.6	24S	40W
-1321	Dec 25	03:25:29	31361	1374	-41064	23	T-	p-	-0.1671	2.5745	1.5287	350.5	221.3	95.0	23N	80E
-1320	Jun 19	22:24:00	31351	1373	-41058	28	T	t-	0.3857	2.1615	1.1393	341.6	209.6	57.2	23S	153E
-1320	Dec 13	14:07:17	31342	1372	-41052	33	P	a-	-0.8410	1.3114	0.3185	276.8	120.0	-	22N	82W
-1319	Jun 09	02:25:05	31332	1370	-41046	38	N	t-	1.1849	0.7159	-0.3477	245.3	-	-	20S	92E
-1319	Nov 03	18:26:58	31324	1369	-41041	5	N	-a	1.2121	0.6231	-0.3554	201.4	-	-	13N	149W
-1319	Dec 03	05:15:15	31322	1369	-41040	43	N	a-	-1.4662	0.1533	-0.8181	103.5	-	-	19N	50E
-1318	Apr 29	13:25:33	31314	1368	-41035	10	P	-t	-0.8725	1.2790	0.2355	301.5	113.3	-	11S	72W
-1318	Oct 24	07:36:27	31305	1367	-41029	15	P	-a	0.5742	1.8151	0.7937	317.4	180.5	-	8N	14E
-1317	Apr 18	21:27:55	31295	1365	-41023	20	T-	pp	-0.0684	2.7279	1.7368	338.1	220.3	101.2	6S	168E
-1317	Oct 13	14:16:29	31285	1364	-41017	25	T-	pp	-0.1226	2.6716	1.5952	365.4	228.5	99.8	3N	85W
-1316	Apr 07	11:57:51	31275	1363	-41011	30	P	a-	0.6756	1.5934	0.6428	288.1	160.2	-	1S	48W
-1316	Oct 01	14:33:11	31266	1361	-41005	35	P	t-	-0.8244	1.3962	0.2954	323.6	129.0	-	2S	89W
-1315	Feb 26	20:45:18	31258	1360	-41000	2	N	-a	-1.1782	0.6824	-0.2901	212.1	-	-	12N	177W

-1315	Mar 28	05:00:15	31256	1360	-40999	40	N	a-	1.3850	0.2913	-0.6582	141.0	-	-	3N	58E
-1315	Aug 21	23:55:25	31248	1359	-40994	7	N	t-	1.3806	0.3431	-0.6930	167.3	-	-	15S	132E
-1315	Sep 20	14:49:33	31246	1359	-40993	45	N	t-	-1.4841	0.1717	-0.9011	124.5	-	-	7S	92W
-1314	Feb 16	08:38:28	31238	1358	-40988	12	P	-a	-0.4894	1.9739	0.9462	331.9	195.9	-	16N	5E
-1314	Aug 11	10:46:54	31229	1356	-40982	17	P	-a	0.5959	1.7538	0.7753	303.8	175.1	-	19S	31W
-1313	Feb 05	13:08:09	31219	1355	-40976	22	T+	pp	0.2414	2.4557	1.3750	368.0	226.5	88.3	20N	62W
-1313	Aug 01	02:42:24	31209	1354	-40970	27	T-	p-	-0.1329	2.5887	1.6390	316.7	209.5	95.2	22S	90E
-1312	Jan 25	12:45:53	31200	1352	-40964	32	P	t-	0.9486	1.1640	0.0717	301.5	65.4	-	23N	57W
-1312	Jul 20	19:08:54	31190	1351	-40958	37	P	a-	-0.8641	1.2551	0.2897	270.0	114.7	-	24S	157W
-1312	Dec 15	00:26:49	31182	1350	-40953	4	N	-a	-1.2597	0.5618	-0.4684	205.0	-	-	21N	123E
-1311	Jun 10	19:48:10	31172	1349	-40947	9	N	-t	1.0351	0.9770	-0.0591	269.8	-	-	21S	169W
-1311	Dec 04	12:46:53	31163	1347	-40941	14	P	-a	-0.5333	1.8708	0.8880	304.7	180.9	-	20N	63W
-1310	May 30	22:15:02	31153	1346	-40935	19	T	pt	0.2857	2.3679	1.3003	368.2	226.2	82.4	19S	154E
-1310	Nov 24	04:20:19	31143	1345	-40929	24	T+	p-	0.1342	2.5987	1.6246	319.4	209.0	94.1	18N	63E
-1309	May 19	23:17:04	31134	1343	-40923	29	P	t-	-0.4812	2.0010	0.9494	349.3	204.2	-	17S	138E
-1309	Nov 13	18:25:24	31124	1342	-40917	34	P	a-	0.8276	1.3444	0.3344	284.6	124.5	-	16N	149W
-1308	Apr 08	20:31:31	31116	1341	-40912	1	N	-a	1.3913	0.2939	-0.6839	147.0	-	-	1S	177W
-1308	May 08	05:50:13	31114	1341	-40911	39	N	a-	-1.2180	0.6238	-0.3773	214.3	-	-	14S	40E
-1308	Oct 03	09:34:29	31106	1340	-40906	6	N	-t	-1.3811	0.3676	-0.7191	181.3	-	-	2S	15W
-1307	Mar 29	12:07:15	31097	1338	-40900	11	P	-a	0.6255	1.6835	0.7366	290.9	167.9	-	2N	50W
-1307	Sep 22	09:06:25	31087	1337	-40894	16	P	-t	-0.7088	1.6059	0.5098	337.7	163.6	-	6S	7W
-1306	Mar 19	04:58:20	31077	1336	-40888	21	T-	pp	-0.0977	2.6580	1.6991	321.8	212.5	97.7	6N	58E
-1306	Sep 11	10:51:31	31068	1334	-40882	26	T+	pp	0.0151	2.8581	1.8028	359.7	228.2	103.5	9S	33W
-1305	Mar 08	18:24:13	31058	1333	-40876	31	P	h-	-0.8660	1.2733	0.2647	285.2	114.4	-	9N	143W
-1305	Aug 31	19:52:18	31048	1332	-40870	36	P	a-	0.7293	1.5176	0.5221	295.4	151.3	-	13S	168W
-1304	Jan 27	08:11:53	31040	1331	-40865	3	N	-t	1.2632	0.5863	-0.5052	226.9	-	-	22N	11E
-1304	Jul 22	02:48:35	31031	1329	-40859	8	N	-a	-1.1594	0.7046	-0.2435	209.9	-	-	24S	87E
-1304	Aug 20	10:47:14	31029	1329	-40858	46	N	a-	1.3903	0.2855	-0.6718	139.6	-	-	15S	32W
-1303	Jan 15	07:42:14	31021	1328	-40853	13	P	-t	0.5656	1.8644	0.7769	348.7	191.5	-	24N	17E
-1303	Jul 11	18:38:17	31011	1327	-40847	18	T	-a	-0.4581	2.0050	1.0295	315.7	194.0	26.1	24S	151W
-1302	Jan 04	11:41:16	31002	1326	-40841	23	T-	p-	-0.1573	2.5897	1.5493	349.0	221.2	95.9	24N	44W
-1302	Jul 01	05:15:20	30992	1324	-40835	28	T	p-	0.3110	2.3013	1.2737	347.2	216.3	76.8	23S	49E
-1302	Dec 24	22:48:34	30982	1323	-40829	33	P	a-	-0.8352	1.3200	0.3309	276.5	121.8	-	23N	148E
-1301	Jun 20	08:47:54	30973	1322	-40823	38	N	t-	1.1026	0.8683	-0.1981	266.6	-	-	22S	5W
-1301	Nov 15	03:17:47	30965	1321	-40818	5	N	-a	1.2137	0.6212	-0.3592	201.5	-	-	17N	77E
-1301	Dec 14	14:06:44	30963	1320	-40817	43	N	a-	-1.4649	0.1552	-0.8153	104.2	-	-	21N	83W
-1300	May 09	20:01:03	30955	1319	-40812	10	P	-t	-0.9513	1.1325	0.0929	287.2	72.4	-	15S	173W
-1300	Nov 03	16:08:33	30945	1318	-40806	15	P	-a	0.5783	1.8099	0.7842	318.4	180.2	-	12N	116W

13TH CENTURY BCE

In the 13th century BCE the total number of lunar eclipses was 251 lunar eclipses: 92 penumbral lunar eclipses, 99 partial lunar eclipses, 60 total lunar eclipses (51 central total lunar eclipses, 9 non-central total lunar eclipses).

	CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
	DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG
	GREATEST				S											
	ECLIPSE															
-1299	Apr 29	04:35:32	30936	1317	-40800	20	T-	pp	-0.1413	2.5917	1.6055	335.3	218.1	97.4	10S	59E
-1299	Oct 23	22:21:02	30926	1315	-40794	25	T-	pp	-0.1147	2.6882	1.6074	366.9	229.1	100.3	8N	151E
-1298	Apr 18	19:27:10	30917	1314	-40788	30	P	a-	0.6074	1.7170	0.7697	293.8	171.4	-	6S	163W
-1298	Oct 12	22:18:57	30907	1313	-40782	35	P	t-	-0.8089	1.4259	0.3226	326.2	134.2	-	2N	153E
-1297	Mar 10	04:34:20	30899	1312	-40777	2	N	-a	-1.2285	0.5897	-0.3822	199.5	-	-	8N	64E
-1297	Apr 08	12:35:36	30897	1311	-40776	40	N	a-	1.3258	0.3996	-0.5491	163.7	-	-	1S	59W
-1297	Sep 02	07:37:10	30889	1310	-40771	7	N	-h	1.4115	0.2863	-0.7497	153.2	-	-	12S	15E
-1297	Oct 01	22:41:58	30888	1310	-40770	45	N	h-	-1.4622	0.2120	-0.8611	137.5	-	-	3S	148E
-1296	Feb 27	16:12:52	30880	1309	-40765	12	P	-a	-0.5357	1.8890	0.8611	329.4	190.4	-	12N	110W
-1296	Aug 21	18:43:18	30870	1308	-40759	17	P	-a	0.6348	1.6825	0.7036	299.5	168.4	-	16S	152W
-1295	Feb 15	20:28:00	30860	1306	-40753	22	T+	pp	0.2010	2.5291	1.4501	369.8	229.1	94.1	17N	174W
-1295	Aug 11	10:38:13	30851	1305	-40747	27	T-	p-	-0.0847	2.6785	1.7261	317.6	210.4	97.4	19S	30W
-1294	Feb 04	20:11:52	30841	1304	-40741	32	P	t-	0.9150	1.2233	0.1357	306.4	89.1	-	20N	170W
-1294	Aug 01	02:48:31	30832	1303	-40735	37	P	a-	-0.8116	1.3540	0.3834	278.3	130.4	-	22S	87E
-1294	Dec 26	08:53:59	30824	1302	-40730	4	N	-a	-1.2613	0.5565	-0.4688	203.3	-	-	22N	4W
-1293	Jun 22	02:26:57	30814	1300	-40724	9	N	-t	1.1184	0.8263	-0.2144	253.1	-	-	22S	90E
-1293	Dec 15	21:35:12	30804	1299	-40718	14	P	-a	-0.5343	1.8676	0.8876	303.8	180.7	-	22N	164E
-1292	Jun 10	04:33:09	30795	1298	-40712	19	T	-t	0.3745	2.2057	1.1367	364.0	218.8	58.9	21S	58E
-1292	Dec 04	13:13:07	30785	1296	-40706	24	T+	p-	0.1337	2.5999	1.6254	319.7	209.2	94.2	21N	71W
-1291	May 30	05:44:58	30776	1295	-40700	29	T	t-	-0.3937	2.1605	1.1113	354.0	213.8	52.8	20S	39E
-1291	Nov 24	03:07:25	30766	1294	-40694	34	P	a-	0.8307	1.3403	0.3274	285.3	123.6	-	19N	79E

-1290	Apr 20	03:48:24	30758	1293	-40689	1	N	-a	1.4550	0.1746	-0.7983	114.1	-	-	5S	72E
-1290	May 19	12:46:26	30756	1293	-40688	39	N	a-	-1.1356	0.7729	-0.2241	233.9	-	-	18S	66W
-1290	Oct 14	17:27:43	30748	1291	-40683	6	N	-t	-1.3975	0.3398	-0.7514	175.3	-	-	3N	135W
-1289	Apr 09	19:43:16	30739	1290	-40677	11	P	-a	0.6891	1.5654	0.6213	284.2	157.1	-	2S	166W
-1289	Oct 03	16:46:57	30729	1289	-40671	16	P	-t	-0.7299	1.5682	0.4700	335.1	158.0	-	1S	125W
-1288	Mar 29	12:36:49	30719	1288	-40665	21	T-	pp	-0.0377	2.7678	1.8093	323.0	213.8	99.7	1N	59W
-1288	Sep 21	18:43:18	30710	1286	-40659	26	T-	pp	-0.0102	2.8671	1.8118	358.7	227.5	103.2	5S	153W
-1287	Mar 19	01:50:25	30700	1285	-40653	31	P	h-	-0.8135	1.3700	0.3609	293.7	132.1	-	5N	103E
-1287	Sep 11	03:59:07	30691	1284	-40647	36	P	a-	0.6972	1.5765	0.5809	298.1	157.6	-	9S	68E
-1286	Feb 06	15:36:13	30683	1283	-40642	3	N	-t	1.2988	0.5198	-0.5693	215.0	-	-	20N	101W
-1286	Aug 02	10:37:00	30673	1281	-40636	8	N	-a	-1.2126	0.6086	-0.3428	197.2	-	-	22S	31W
-1286	Aug 31	18:57:53	30672	1281	-40635	46	N	a-	1.3541	0.3530	-0.6065	154.2	-	-	12S	157W
-1285	Jan 26	15:19:09	30664	1280	-40630	13	P	-t	0.5916	1.8139	0.7316	345.0	187.0	-	22N	98W
-1285	Jul 23	02:06:33	30654	1279	-40624	18	P	-a	-0.5205	1.8933	0.9122	312.7	187.0	-	23S	96E
-1284	Jan 15	19:49:59	30644	1278	-40618	23	T-	p-	-0.1406	2.6173	1.5829	347.7	221.3	97.1	23N	167W
-1284	Jul 11	12:11:04	30635	1276	-40612	28	T+	pp	0.2408	2.4329	1.3996	351.9	221.4	88.7	23S	56W
-1283	Jan 04	07:24:11	30625	1275	-40606	33	P	a-	-0.8242	1.3381	0.3533	277.0	125.2	-	23N	18E
-1283	Jun 30	15:14:53	30616	1274	-40600	38	Nx	t-	1.0234	1.0153	-0.0542	284.4	-	-	23S	103W
-1283	Nov 25	12:09:53	30608	1273	-40595	5	N	-a	1.2144	0.6207	-0.3612	201.8	-	-	20N	57W
-1283	Dec 24	22:55:09	30606	1272	-40594	43	N	a-	-1.4614	0.1610	-0.8082	106.0	-	-	22N	144E
-1282	May 21	02:35:07	30598	1271	-40589	10	N	-t	-1.0320	0.9826	-0.0534	270.7	-	-	18S	86E
-1282	Nov 15	00:44:00	30588	1270	-40583	15	P	-a	0.5789	1.8106	0.7812	319.7	180.4	-	16N	114E
-1281	May 10	11:40:24	30579	1269	-40577	20	T-	pp	-0.2178	2.4493	1.4673	331.8	214.5	90.5	14S	50W
-1281	Nov 04	06:29:52	30569	1268	-40571	25	T-	pp	-0.1111	2.6969	1.6122	368.3	229.7	100.6	12N	27E
-1280	Apr 29	02:53:03	30560	1266	-40565	30	P	a-	0.5357	1.8472	0.9025	299.0	181.3	-	10S	83E
-1280	Oct 23	06:12:10	30550	1265	-40559	35	P	t-	-0.7990	1.4451	0.3398	327.7	137.4	-	7N	32E
-1279	Mar 20	12:16:12	30542	1264	-40554	2	N	-a	-1.2840	0.4878	-0.4840	183.7	-	-	4N	54W
-1279	Apr 18	20:06:33	30541	1264	-40553	40	N	a-	1.2634	0.5139	-0.4345	183.9	-	-	5S	174W
-1279	Sep 12	15:28:06	30533	1263	-40548	7	N	-h	1.4360	0.2413	-0.7948	140.7	-	-	8S	105W
-1279	Oct 12	06:42:10	30531	1262	-40547	45	N	h-	-1.4456	0.2424	-0.8306	146.2	-	-	2N	25E
-1278	Mar 09	23:39:04	30523	1261	-40542	12	P	-h	-0.5879	1.7935	0.7654	326.0	183.2	-	8N	136E
-1278	Sep 02	02:47:54	30513	1260	-40536	17	P	-a	0.6676	1.6227	0.6431	295.6	162.2	-	12S	86E
-1277	Feb 27	03:37:40	30504	1259	-40530	22	T+	pp	0.1526	2.6169	1.5397	371.5	231.6	99.2	13N	77E
-1277	Aug 22	18:42:01	30494	1258	-40524	27	T-	pp	-0.0433	2.7560	1.8006	318.2	210.8	98.4	16S	153W
-1276	Feb 16	03:29:04	30485	1256	-40518	32	P	t-	0.8738	1.2964	0.2136	312.1	110.4	-	17N	80E
-1276	Aug 11	10:35:19	30475	1255	-40512	37	P	a-	-0.7656	1.4412	0.4652	285.3	142.2	-	20S	31W
-1275	Jan 05	17:15:32	30467	1254	-40507	4	N	-a	-1.2681	0.5413	-0.4786	199.9	-	-	23N	130W
-1275	Feb 04	06:42:33	30466	1254	-40506	42	N	a-	1.5393	0.0550	-0.9873	69.0	-	-	21N	31E
-1275	Jul 02	09:10:16	30458	1253	-40501	9	N	-t	1.1969	0.6849	-0.3608	234.7	-	-	23S	12W
-1275	Jul 31	21:54:38	30456	1252	-40500	47	Nb	t-	-1.5595	0.0098	-1.0164	29.0	-	-	23S	159E

-1275	Dec 26	06:19:21	30448	1251	-40495	14	P	-a	-0.5390	1.8573	0.8805	302.7	179.9	-	23N	33E
-1274	Jun 21	10:53:45	30439	1250	-40489	19	P	-t	0.4609	2.0480	0.9773	358.7	209.3	-	23S	39W
-1274	Dec 15	22:03:13	30429	1249	-40483	24	T+	p-	0.1312	2.6042	1.6299	320.1	209.4	94.5	23N	156E
-1273	Jun 10	12:15:41	30419	1248	-40477	29	T	t-	-0.3077	2.3172	1.2699	357.4	220.8	77.7	22S	60W
-1273	Dec 05	11:46:57	30410	1246	-40471	34	P	a-	0.8326	1.3378	0.3227	286.1	123.2	-	22N	52W
-1272	Apr 30	11:02:19	30402	1245	-40466	1	Ne	-a	1.5216	0.0503	-0.9184	61.7	-	-	9S	39W
-1272	May 29	19:44:49	30400	1245	-40465	39	N	a-	-1.0538	0.9213	-0.0724	250.4	-	-	20S	172W
-1272	Oct 25	01:27:14	30392	1244	-40460	6	N	-t	-1.4081	0.3223	-0.7726	171.4	-	-	7N	103E
-1271	Apr 20	03:14:25	30383	1243	-40454	11	P	-a	0.7570	1.4397	0.4978	276.5	143.3	-	6S	78E
-1271	Oct 14	00:35:47	30373	1242	-40448	16	P	-t	-0.7446	1.5421	0.4425	333.1	153.8	-	3N	116E
-1270	Apr 09	20:07:59	30364	1240	-40442	21	T+	pp	0.0278	2.7862	1.8276	323.8	214.3	100.1	3S	174W
-1270	Oct 03	02:45:02	30354	1239	-40436	26	T-	pp	-0.0283	2.8338	1.7787	357.6	226.8	102.7	1S	84E
-1269	Mar 30	09:05:43	30345	1238	-40430	31	P	t-	-0.7528	1.4818	0.4718	302.6	149.1	-	1N	8W
-1269	Sep 22	12:16:11	30335	1236	-40424	36	P	a-	0.6729	1.6211	0.6253	299.8	161.9	-	5S	58W
-1268	Feb 17	22:50:53	30327	1235	-40419	3	N	-t	1.3417	0.4398	-0.6466	199.3	-	-	17N	149E
-1268	Mar 18	14:53:25	30326	1235	-40418	41	Nb	t-	-1.5569	0.0335	-1.0301	56.0	-	-	4N	94W
-1268	Aug 12	18:32:39	30318	1234	-40413	8	N	-a	-1.2596	0.5242	-0.4309	184.8	-	-	20S	151W
-1268	Sep 11	03:16:53	30316	1234	-40412	46	N	a-	1.3248	0.4080	-0.5539	164.9	-	-	8S	77E
-1267	Feb 05	22:49:38	30308	1233	-40407	13	P	-t	0.6234	1.7528	0.6760	340.5	181.1	-	20N	149E
-1267	Aug 02	09:40:32	30299	1232	-40401	18	P	-a	-0.5774	1.7920	0.8051	309.7	179.5	-	22S	18W
-1266	Jan 26	03:53:54	30289	1230	-40395	23	T-	p-	-0.1192	2.6535	1.6253	346.3	221.4	98.6	21N	72E
-1266	Jul 22	19:10:17	30280	1229	-40389	28	T+	pp	0.1743	2.5580	1.5187	355.7	225.1	96.4	23S	162W
-1265	Jan 15	15:55:16	30270	1228	-40383	33	P	a-	-0.8089	1.3637	0.3835	277.9	129.6	-	22N	110W
-1265	Jul 11	21:47:12	30260	1227	-40377	38	P	t-	0.9482	1.1551	0.0821	299.5	70.0	-	23S	158E
-1265	Dec 06	20:59:49	30253	1226	-40372	5	N	-a	1.2167	0.6169	-0.3661	201.7	-	-	22N	170E
-1264	Jan 05	07:37:30	30251	1225	-40371	43	N	a-	-1.4533	0.1751	-0.7924	110.5	-	-	22N	14E
-1264	May 31	09:13:08	30243	1224	-40366	10	N	-t	-1.1101	0.8378	-0.1953	252.8	-	-	21S	15W
-1264	Nov 25	09:18:28	30233	1223	-40360	15	P	-a	0.5801	1.8100	0.7776	320.9	180.6	-	19N	16W
-1263	May 20	18:47:12	30224	1222	-40354	20	T	-p	-0.2935	2.3086	1.3303	327.6	209.7	79.9	17S	158W
-1263	Nov 14	14:39:45	30214	1220	-40348	25	T-	pp	-0.1087	2.7027	1.6151	369.5	230.1	100.8	15N	97W
-1262	May 10	10:17:10	30205	1219	-40342	30	T	a-	0.4620	1.9815	1.0388	303.7	189.6	29.2	13S	30W
-1262	Nov 03	14:09:53	30195	1218	-40336	35	P	t-	-0.7927	1.4571	0.3508	328.6	139.3	-	11N	89W
-1261	Mar 31	19:47:31	30187	1217	-40331	2	N	-a	-1.3473	0.3718	-0.6003	162.6	-	-	1S	170W
-1261	Apr 30	03:30:52	30186	1217	-40330	40	N	a-	1.1959	0.6379	-0.3110	202.7	-	-	9S	72E
-1261	Sep 23	23:30:22	30178	1216	-40325	7	N	-h	1.4523	0.2112	-0.8245	131.6	-	-	3S	132E
-1261	Oct 23	14:50:36	30176	1215	-40324	45	N	h-	-1.4348	0.2617	-0.8104	151.3	-	-	6N	99W
-1260	Mar 20	06:53:35	30168	1214	-40319	12	P	-h	-0.6485	1.6825	0.6539	321.3	173.1	-	4N	25E
-1260	Sep 12	11:02:35	30159	1213	-40313	17	P	-a	0.6928	1.5769	0.5967	292.4	157.0	-	8S	40W
-1259	Mar 09	10:36:32	30149	1212	-40307	22	T+	pp	0.0958	2.7201	1.6448	372.9	233.7	103.4	9N	30W
-1259	Sep 02	02:54:26	30140	1211	-40301	27	T-	pp	-0.0091	2.8203	1.8618	318.6	210.9	98.6	13S	82E

-1258	Feb 26	10:37:09	30130	1209	-40295	32	P	t-	0.8246	1.3841	0.3065	318.4	130.2	-	14N	29W
-1258	Aug 22	18:28:32	30121	1208	-40289	37	P	a-	-0.7255	1.5177	0.5359	291.2	151.4	-	17S	151W
-1257	Jan 17	01:32:45	30113	1207	-40284	4	N	-a	-1.2791	0.5181	-0.4959	195.2	-	-	22N	106E
-1257	Feb 15	14:23:12	30111	1207	-40283	42	N	a-	1.5003	0.1230	-0.9124	102.1	-	-	18N	85W
-1257	Jul 13	15:56:23	30103	1206	-40278	9	N	-t	1.2717	0.5503	-0.5007	214.0	-	-	22S	114W
-1257	Aug 12	05:15:48	30102	1206	-40277	47	N	t-	-1.5138	0.0970	-0.9359	90.9	-	-	20S	47E
-1256	Jan 06	14:59:00	30094	1205	-40272	14	P	-a	-0.5479	1.8393	0.8660	301.3	178.7	-	23N	97W
-1256	Jul 01	17:19:05	30084	1203	-40266	19	P	-t	0.5431	1.8983	0.8254	352.4	197.8	-	23S	136W
-1256	Dec 26	06:50:26	30075	1202	-40260	24	T+	p-	0.1268	2.6120	1.6382	320.5	209.8	94.9	24N	24E
-1255	Jun 20	18:50:49	30066	1201	-40254	29	T-	pp	-0.2244	2.4693	1.4236	359.6	225.5	91.6	23S	159W
-1255	Dec 15	20:24:26	30056	1200	-40248	34	P	a-	0.8336	1.3370	0.3201	286.9	123.1	-	24N	179E
-1254	Jun 10	02:46:24	30047	1198	-40242	39	P	a-	-0.9735	1.0671	0.0763	264.3	62.7	-	23S	81E
-1254	Nov 05	09:29:51	30039	1197	-40237	6	N	-t	-1.4159	0.3094	-0.7886	168.5	-	-	11N	19W
-1253	May 01	10:41:52	30029	1196	-40231	11	P	-a	0.8284	1.3079	0.3676	267.4	125.5	-	10S	36W
-1253	Oct 25	08:31:01	30020	1195	-40225	16	P	-t	-0.7544	1.5244	0.4239	331.6	150.8	-	8N	5W
-1252	Apr 20	03:34:14	30010	1194	-40219	21	T+	pp	0.0971	2.6592	1.6999	324.0	213.9	98.4	7S	71E
-1252	Oct 13	10:54:03	30001	1192	-40213	26	T-	pp	-0.0414	2.8095	1.7551	356.4	226.0	102.2	4N	40W
-1251	Apr 09	16:14:23	29991	1191	-40207	31	P	t-	-0.6873	1.6026	0.5913	311.4	164.3	-	4S	118W
-1251	Oct 02	20:41:26	29982	1190	-40201	36	P	a-	0.6547	1.6545	0.6588	300.8	164.9	-	0S	173E
-1250	Feb 28	05:55:02	29974	1189	-40196	3	N	-t	1.3925	0.3451	-0.7385	178.1	-	-	13N	41E
-1250	Mar 29	21:40:37	29972	1189	-40195	41	N	t-	-1.4929	0.1506	-0.9124	117.8	-	-	0N	161E
-1250	Aug 24	02:36:06	29964	1188	-40190	8	N	-a	-1.3004	0.4514	-0.5077	173.0	-	-	17S	87E
-1250	Sep 22	11:44:14	29963	1187	-40189	46	N	a-	1.3021	0.4508	-0.5134	172.6	-	-	4S	52W
-1249	Feb 17	06:10:39	29955	1186	-40184	13	P	-t	0.6636	1.6761	0.6051	334.9	173.0	-	17N	37E
-1249	Aug 13	17:22:05	29945	1185	-40178	18	P	-a	-0.6273	1.7034	0.7103	306.7	171.8	-	19S	135W
-1248	Feb 06	11:48:43	29936	1184	-40172	23	T-	pp	-0.0890	2.7056	1.6839	344.9	221.6	100.1	19N	48W
-1248	Aug 02	02:17:14	29926	1183	-40166	28	T+	pp	0.1148	2.6703	1.6247	358.8	227.6	100.9	21S	91E
-1247	Jan 26	00:19:28	29917	1181	-40160	33	P	a-	-0.7873	1.4011	0.4256	279.6	135.5	-	21N	124E
-1247	Jul 22	04:25:16	29907	1180	-40154	38	P	t-	0.8772	1.2870	0.2104	312.1	110.1	-	22S	58E
-1247	Dec 17	05:47:51	29900	1179	-40149	5	N	-a	1.2207	0.6099	-0.3737	201.1	-	-	24N	37E
-1246	Jan 15	16:14:28	29898	1179	-40148	43	N	a-	-1.4410	0.1967	-0.7690	116.9	-	-	22N	116W
-1246	Jun 11	15:53:14	29890	1178	-40143	10	N	-t	-1.1875	0.6946	-0.3360	232.6	-	-	23S	116W
-1246	Dec 06	17:52:11	29881	1177	-40137	15	P	-a	0.5810	1.8095	0.7747	322.0	180.9	-	22N	145W
-1245	Jun 01	01:53:56	29871	1175	-40131	20	T	-p	-0.3701	2.1664	1.1911	322.7	203.5	63.5	20S	93E
-1245	Nov 25	22:50:55	29862	1174	-40125	25	T-	pp	-0.1079	2.7053	1.6154	370.5	230.6	100.9	19N	140E
-1244	May 20	17:40:32	29852	1173	-40119	30	T	a-	0.3873	2.1177	1.1763	307.7	196.4	59.6	17S	143W
-1244	Nov 13	22:10:33	29843	1172	-40113	35	P	t-	-0.7885	1.4649	0.3583	329.1	140.6	-	15N	149E
-1243	Apr 11	03:13:33	29835	1171	-40108	2	N	-a	-1.4142	0.2495	-0.7234	135.2	-	-	5S	76E
-1243	May 10	10:53:26	29833	1170	-40107	40	N	a-	1.1273	0.7644	-0.1855	219.6	-	-	13S	41W
-1243	Oct 04	07:41:09	29825	1169	-40102	7	N	-h	1.4629	0.1916	-0.8437	125.2	-	-	1N	7E

-1243	Nov 02	23:04:44	29824	1169	-40101	45	N	h-	-1.4276	0.2743	-0.7966	154.2	-	-	10N	136E
-1242	Mar 31	13:59:43	29816	1168	-40096	12	P	t-	-0.7150	1.5608	0.5315	315.2	159.7	-	0S	84W
-1242	Sep 23	19:25:12	29807	1167	-40090	17	P	a-	0.7120	1.5419	0.5610	289.8	152.7	-	4S	168W
-1241	Mar 20	17:26:35	29797	1166	-40084	22	T+	pp	0.0321	2.8363	1.7626	373.8	235.1	105.8	5N	134W
-1241	Sep 13	11:14:53	29788	1165	-40078	27	T+	pp	0.0183	2.8051	1.8434	319.0	210.9	98.5	9S	45W
-1240	Mar 08	17:37:06	29778	1163	-40072	32	P	t-	0.7680	1.4853	0.4128	325.1	148.5	-	10N	136W
-1240	Sep 02	02:30:14	29769	1162	-40066	37	P	a-	-0.6930	1.5802	0.5926	296.1	158.1	-	13S	87E
-1239	Jan 27	09:43:06	29761	1161	-40061	4	N	a-	-1.2963	0.4836	-0.5245	188.4	-	-	20N	18W
-1239	Feb 25	21:56:55	29759	1161	-40060	42	N	a-	1.4548	0.2032	-0.8256	129.6	-	-	14N	160E
-1239	Jul 23	22:48:07	29751	1160	-40055	9	N	t-	1.3408	0.4264	-0.6302	191.4	-	-	21S	142E
-1239	Aug 22	12:43:43	29750	1160	-40054	47	N	t-	-1.4742	0.1731	-0.8665	121.2	-	-	17S	66W
-1238	Jan 16	23:32:24	29742	1159	-40049	14	P	a-	-0.5622	1.8110	0.8415	299.4	176.7	-	22N	134E
-1238	Jul 12	23:50:34	29733	1157	-40043	19	P	t-	0.6199	1.7585	0.6834	345.4	184.4	-	23S	126E
-1237	Jan 06	15:30:36	29723	1156	-40037	24	T+	p-	0.1168	2.6301	1.6571	321.0	210.4	95.6	24N	107W
-1237	Jul 02	01:32:21	29714	1155	-40031	29	T-	pp	-0.1453	2.6140	1.5692	360.6	228.3	99.6	24S	99E
-1237	Dec 27	04:55:58	29704	1154	-40025	34	P	a-	0.8305	1.3433	0.3251	288.3	124.3	-	25N	51E
-1236	Jun 20	09:53:03	29695	1152	-40019	39	P	a-	-0.8960	1.2082	0.2196	275.8	103.8	-	24S	27W
-1236	Nov 15	17:34:19	29687	1151	-40014	6	N	t-	-1.4219	0.2996	-0.8005	166.3	-	-	15N	142W
-1235	May 11	18:07:13	29677	1150	-40008	11	P	a-	0.9015	1.1733	0.2339	257.1	102.0	-	14S	150W
-1235	Nov 04	16:32:29	29668	1149	-40002	16	P	t-	-0.7596	1.5150	0.4145	330.5	149.1	-	12N	127W
-1234	May 01	10:53:37	29659	1148	-39996	21	T+	-p	0.1716	2.5232	1.5628	323.6	212.4	94.0	11S	41W
-1234	Oct 24	19:11:31	29649	1147	-39990	26	T-	pp	-0.0483	2.7962	1.7429	355.1	225.3	101.8	8N	167W
-1233	Apr 20	23:14:29	29640	1145	-39984	31	P	t-	-0.6158	1.7347	0.7216	320.0	178.3	-	8S	134E
-1233	Oct 14	05:14:56	29630	1144	-39978	36	P	a-	0.6428	1.6762	0.6809	301.2	166.6	-	4N	43E
-1232	Mar 10	12:49:52	29622	1143	-39973	3	N	t-	1.4503	0.2376	-0.8430	149.2	-	-	10N	65W
-1232	Apr 09	04:19:58	29621	1143	-39972	41	N	t-	-1.4228	0.2789	-0.7837	158.8	-	-	4S	59E
-1232	Sep 03	10:48:01	29613	1142	-39967	8	N	a-	-1.3343	0.3913	-0.5719	162.3	-	-	13S	38W
-1232	Oct 02	20:19:35	29611	1142	-39966	46	N	a-	1.2861	0.4812	-0.4852	177.8	-	-	1N	177E
-1231	Feb 27	13:25:27	29604	1141	-39961	13	P	t-	0.7096	1.5889	0.5238	328.2	162.8	-	13N	73W
-1231	Aug 24	01:09:15	29594	1139	-39955	18	P	a-	-0.6719	1.6248	0.6255	303.9	163.9	-	16S	107E
-1230	Feb 16	19:38:24	29585	1138	-39949	23	T-	pp	-0.0536	2.7672	1.7522	343.5	221.6	101.3	16N	167W
-1230	Aug 13	09:29:49	29575	1137	-39943	28	T+	pp	0.0606	2.7731	1.7211	361.3	229.2	103.4	19S	19W
-1229	Feb 06	08:36:02	29566	1136	-39937	33	P	a-	-0.7589	1.4507	0.4801	282.1	142.4	-	18N	1W
-1229	Aug 02	11:11:16	29556	1134	-39931	38	P	t-	0.8125	1.4076	0.3273	322.5	135.0	-	20S	44W
-1229	Dec 28	14:30:33	29549	1133	-39926	5	N	a-	1.2289	0.5949	-0.3889	199.3	-	-	25N	93W
-1228	Jan 27	00:43:32	29547	1133	-39925	43	N	a-	-1.4226	0.2294	-0.7343	125.9	-	-	20N	116E
-1228	Jun 21	22:39:53	29539	1132	-39920	10	N	t-	-1.2600	0.5605	-0.4680	210.9	-	-	24S	141E
-1228	Jul 21	11:53:16	29538	1132	-39919	48	N	t-	1.5225	0.0943	-0.9650	93.1	-	-	21S	56W
-1228	Dec 17	02:20:36	29530	1131	-39914	15	P	a-	0.5858	1.8017	0.7650	322.8	180.6	-	24N	88E
-1227	Jun 11	09:05:24	29520	1130	-39908	20	T	a-	-0.4438	2.0301	1.0572	317.1	196.1	36.1	22S	16W

-1227	Dec 06	06:59:31	29511	1129	-39902	25	T-	pp	-0.1054	2.7106	1.6193	371.4	231.0	101.2	21N	17E
-1226	Jun 01	01:03:26	29502	1127	-39896	30	T	p-	0.3119	2.2558	1.3150	311.0	201.9	76.1	20S	105E
-1226	Nov 25	06:12:48	29492	1126	-39890	35	P	t-	-0.7853	1.4706	0.3646	329.3	141.6	-	18N	28E
-1225	Apr 22	10:31:37	29484	1125	-39885	2	Ne	-a	-1.4869	0.1168	-0.8574	93.9	-	-	9S	36W
-1225	May 21	18:12:37	29483	1125	-39884	40	N	a-	1.0559	0.8961	-0.0555	235.1	-	-	16S	152W
-1225	Oct 15	16:00:37	29475	1124	-39879	7	N	-a	1.4674	0.1828	-0.8515	122.0	-	-	6N	120W
-1225	Nov 14	07:22:41	29473	1124	-39878	45	N	a-	-1.4227	0.2823	-0.7864	155.9	-	-	14N	10E
-1224	Apr 10	20:56:20	29465	1123	-39873	12	P	-t	-0.7884	1.4268	0.3963	307.2	141.3	-	4S	169E
-1224	Oct 04	03:57:14	29456	1122	-39867	17	P	-a	0.7243	1.5196	0.5382	287.9	149.8	-	1N	62E
-1223	Mar 31	00:07:35	29447	1120	-39861	22	T-	pp	-0.0387	2.8233	1.7513	374.0	235.3	105.9	1N	123E
-1223	Sep 23	19:42:55	29437	1119	-39855	27	T+	pp	0.0393	2.7683	1.8033	319.3	210.7	98.1	4S	174W
-1222	Mar 20	00:29:31	29428	1118	-39849	32	P	t-	0.7046	1.5992	0.5318	331.7	165.1	-	6N	119E
-1222	Sep 13	10:39:13	29419	1117	-39843	37	P	a-	-0.6674	1.6302	0.6368	300.2	163.2	-	9S	37W
-1221	Feb 07	17:46:11	29411	1116	-39838	4	N	-a	-1.3200	0.4369	-0.5649	179.0	-	-	17N	139W
-1221	Mar 09	05:22:34	29409	1115	-39837	42	N	a-	1.4019	0.2969	-0.7251	154.6	-	-	10N	46E
-1221	Aug 04	05:45:59	29401	1114	-39832	9	N	-t	1.4038	0.3137	-0.7487	166.5	-	-	19S	36E
-1221	Sep 02	20:19:39	29400	1114	-39831	47	N	t-	-1.4416	0.2363	-0.8100	141.5	-	-	14S	178E
-1220	Jan 28	07:59:39	29392	1113	-39826	14	P	-a	-0.5819	1.7729	0.8072	297.1	173.9	-	20N	7E
-1220	Jul 23	06:29:04	29383	1112	-39820	19	P	-t	0.6909	1.6294	0.5517	337.9	169.3	-	22S	25E
-1219	Jan 17	00:05:14	29373	1111	-39814	24	T+	p-	0.1023	2.6560	1.6841	321.6	211.0	96.5	23N	125E
-1219	Jul 12	08:21:28	29364	1110	-39808	29	T-	pp	-0.0715	2.7489	1.7049	360.6	229.5	103.5	24S	4W
-1218	Jan 06	13:22:21	29354	1108	-39802	34	P	a-	0.8239	1.3559	0.3368	290.2	126.7	-	25N	76W
-1218	Jul 01	17:04:42	29345	1107	-39796	39	P	a-	-0.8215	1.3440	0.3571	285.3	129.3	-	25S	135W
-1218	Nov 27	01:39:21	29337	1106	-39791	6	N	-t	-1.4268	0.2912	-0.8103	164.4	-	-	18N	96E
-1217	May 23	01:31:56	29328	1105	-39785	11	P	-a	0.9751	1.0382	0.0990	245.4	67.6	-	17S	97E
-1217	Jun 21	08:07:38	29326	1105	-39784	49	Nb	a-	-1.5094	0.0612	-0.8849	66.0	-	-	25S	2W
-1217	Nov 16	00:35:55	29318	1104	-39779	16	P	-t	-0.7633	1.5078	0.4081	329.5	147.9	-	15N	111E
-1216	May 11	18:11:04	29309	1103	-39773	21	T+	-p	0.2469	2.3859	1.4235	322.5	209.5	86.3	14S	152W
-1216	Nov 04	03:34:02	29300	1101	-39767	26	T-	pp	-0.0515	2.7894	1.7380	353.9	224.7	101.5	12N	66E
-1215	May 01	06:09:35	29290	1100	-39761	31	P	t-	-0.5409	1.8732	0.8579	328.1	190.6	-	12S	28E
-1215	Oct 24	13:53:56	29281	1099	-39755	36	P	a-	0.6349	1.6903	0.6957	301.1	167.6	-	9N	89W
-1214	Mar 21	19:35:25	29273	1098	-39750	3	N	-t	1.5149	0.1177	-0.9601	106.1	-	-	6N	168W
-1214	Apr 20	10:51:52	29272	1098	-39749	41	N	t-	-1.3470	0.4180	-0.6445	192.3	-	-	8S	42W
-1214	Sep 14	19:07:55	29264	1097	-39744	8	N	-a	-1.3618	0.3429	-0.6244	153.0	-	-	9S	164W
-1214	Oct 14	05:01:30	29262	1097	-39743	46	N	a-	1.2754	0.5019	-0.4664	181.3	-	-	5N	44E
-1213	Mar 10	20:29:59	29254	1096	-39738	13	P	-t	0.7646	1.4850	0.4258	319.9	148.7	-	9N	179E
-1213	Sep 04	09:05:20	29245	1094	-39732	18	P	-a	-0.7084	1.5611	0.5554	301.6	156.6	-	12S	14W
-1212	Feb 28	03:19:09	29236	1093	-39726	23	T-	pp	-0.0097	2.8445	1.8360	341.9	221.4	101.9	12N	77E
-1212	Aug 23	16:50:23	29226	1092	-39720	28	T+	pp	0.0137	2.8623	1.8039	363.3	230.1	104.2	15S	130W
-1211	Feb 16	16:44:55	29217	1091	-39714	33	P	a-	-0.7237	1.5128	0.5470	285.1	150.3	-	15N	125W

-1211	Aug 12	18:05:46	29208	1090	-39708	38	P	t-	0.7545	1.5161	0.4319	331.0	152.7	-	18S	149W
-1210	Jan 07	23:08:12	29200	1089	-39703	5	N	-a	1.2410	0.5727	-0.4110	196.3	-	-	25N	137E
-1210	Feb 06	09:04:53	29198	1088	-39702	43	N	a-	-1.3985	0.2725	-0.6890	136.7	-	-	18N	10W
-1210	Jul 03	05:30:54	29190	1087	-39697	10	N	-t	-1.3297	0.4318	-0.5952	186.7	-	-	25S	38E
-1210	Aug 01	18:49:37	29189	1087	-39696	48	N	t-	1.4572	0.2144	-0.8455	138.6	-	-	20S	161W
-1210	Dec 28	10:45:14	29181	1086	-39691	15	P	-a	0.5929	1.7893	0.7512	323.3	180.0	-	24N	39W
-1209	Jun 22	16:20:13	29172	1085	-39685	20	P	-a	-0.5155	1.8975	0.9263	311.0	187.4	-	24S	125W
-1209	Dec 17	15:04:48	29162	1084	-39679	25	T-	pp	-0.1007	2.7197	1.6277	372.3	231.6	101.6	23N	105W
-1208	Jun 11	08:28:50	29153	1083	-39673	30	T+	p-	0.2383	2.3909	1.4500	313.5	206.0	86.6	22S	8W
-1208	Dec 05	14:15:22	29144	1081	-39667	35	P	t-	-0.7816	1.4766	0.3720	329.4	142.8	-	21N	94W
-1207	Jun 01	01:31:17	29134	1080	-39661	40	P	a-	0.9846	1.0282	0.0742	249.0	59.6	-	19S	96E
-1207	Oct 26	00:26:05	29127	1079	-39656	7	N	-a	1.4681	0.1810	-0.8520	121.0	-	-	10N	112E
-1207	Nov 24	15:43:10	29125	1079	-39655	45	N	a-	-1.4188	0.2879	-0.7780	156.8	-	-	17N	116W
-1206	Apr 22	03:46:45	29117	1078	-39650	12	P	-t	-0.8657	1.2857	0.2537	297.5	115.9	-	9S	64E
-1206	Oct 15	12:35:27	29108	1077	-39644	17	P	-a	0.7318	1.5060	0.5244	286.5	147.9	-	5N	70W
-1205	Apr 11	06:40:44	29098	1076	-39638	22	T-	pp	-0.1154	2.6818	1.6112	373.3	234.2	102.9	4S	22E
-1205	Oct 05	04:18:14	29089	1074	-39632	27	T+	-p	0.0539	2.7430	1.7749	319.7	210.6	97.7	0N	55E
-1204	Mar 30	07:15:52	29080	1073	-39626	32	P	t-	0.6355	1.7234	0.6610	338.1	179.9	-	1N	14E
-1204	Sep 23	18:54:48	29070	1072	-39620	37	P	a-	-0.6479	1.6687	0.6696	303.5	166.8	-	5S	163W
-1203	Feb 18	01:41:53	29063	1071	-39615	4	N	-a	-1.3503	0.3782	-0.6174	166.8	-	-	14N	100E
-1203	Mar 19	12:42:36	29061	1071	-39614	42	N	a-	1.3432	0.4013	-0.6143	177.1	-	-	6N	66W
-1203	Aug 14	12:51:49	29053	1070	-39609	9	N	-t	1.4592	0.2149	-0.8533	139.6	-	-	17S	71W
-1203	Sep 13	04:03:13	29052	1070	-39608	47	N	t-	-1.4157	0.2870	-0.7657	155.9	-	-	10S	61E
-1202	Feb 07	16:18:19	29044	1069	-39603	14	P	-a	-0.6092	1.7209	0.7593	294.0	169.9	-	18N	119W
-1202	Aug 03	13:16:00	29035	1068	-39597	19	P	-t	0.7551	1.5131	0.4327	330.2	152.7	-	20S	78W
-1201	Jan 28	08:30:53	29025	1066	-39591	24	T+	pp	0.0808	2.6949	1.7242	322.2	211.8	97.6	21N	2W
-1201	Jul 23	15:20:02	29016	1065	-39585	29	T-	pp	-0.0047	2.8714	1.8278	359.9	229.5	104.5	23S	109W
-1200	Jan 17	21:39:12	29007	1064	-39579	34	P	a-	0.8104	1.3808	0.3613	293.0	131.1	-	24N	160E
-1200	Jul 12	00:24:28	28997	1063	-39573	39	P	a-	-0.7528	1.4696	0.4838	293.0	147.2	-	24S	114E
-1200	Dec 07	09:43:16	28990	1062	-39568	6	N	-t	-1.4318	0.2823	-0.8197	162.2	-	-	20N	26W

12TH CENTURY BCE

In the 12th century BCE the total number of lunar eclipses was 252 lunar eclipses:

**96 penumbral lunar eclipses, 95 partial lunar eclipses, 61 total lunar eclipses
(48 central total lunar eclipses, 13 non-central total lunar eclipses).**

DATE	OF	SIGMA	NUM	NUM	TYPE	GREATEST	S	ECLIPSE	CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
									MAG.	MAG.	DUR.	DUR.	DUR.	DUR.	LAT	LONG								
									m	m	m	°	°											
-1199 Jan 06	03:55:08	28988	1062	-39567	44	N	t-	1.5727	0.0118	-1.0662	33.2	-	-	-	25N	64E								
-1199 Jun 02	08:55:44	28980	1061	-39562	11	N	-a	1.0493	0.9023	-0.0373	232.2	-	-	-	19S	15W								
-1199 Jul 01	15:37:04	28979	1060	-39561	49	N	a-	-1.4407	0.1876	-0.7589	114.1	-	-	-	25S	115W								
-1199 Nov 26	08:42:31	28971	1059	-39556	16	P	-t	-0.7648	1.5043	0.4061	328.7	147.4	-	-	18N	12W								
-1198 May 23	01:24:16	28962	1058	-39550	21	T	-a	0.3249	2.2441	1.2791	320.6	205.2	74.0	-	17S	97E								
-1198 Nov 15	12:01:14	28952	1057	-39544	26	T-	pp	-0.0520	2.7872	1.7383	352.5	224.1	101.3	-	16N	62W								
-1197 May 12	12:58:05	28943	1056	-39538	31	T	t-	-0.4613	2.0207	1.0027	335.6	201.4	8.3	-	15S	76W								
-1197 Nov 04	22:38:34	28934	1055	-39532	36	P	a-	0.6310	1.6969	0.7033	300.7	167.9	-	-	13N	138E								
-1196 Apr 30	17:18:57	28924	1053	-39526	41	N	t-	-1.2670	0.5650	-0.4978	220.9	-	-	-	12S	141W								
-1196 Sep 25	03:34:20	28917	1052	-39521	8	N	-a	-1.3841	0.3041	-0.6673	144.9	-	-	-	5S	67E								
-1196 Oct 24	13:48:03	28915	1052	-39520	46	N	a-	1.2684	0.5155	-0.4545	183.5	-	-	-	9N	90W								
-1195 Mar 21	03:29:49	28907	1051	-39515	13	P	-t	0.8241	1.3729	0.3196	310.3	130.6	-	-	5N	71E								
-1195 Sep 14	17:07:33	28898	1050	-39509	18	P	-a	-0.7392	1.5078	0.4958	299.7	149.8	-	-	8S	136W								
-1194 Mar 10	10:53:47	28889	1049	-39503	23	T+	pp	0.0403	2.7850	1.7830	340.0	220.7	101.5	-	9N	39W								
-1194 Sep 04	00:17:55	28879	1048	-39497	28	T-	pp	-0.0268	2.8414	1.7767	364.9	230.5	104.1	-	12S	116E								
-1193 Feb 28	00:46:23	28870	1047	-39491	33	P	a-	-0.6819	1.5871	0.6260	288.6	158.5	-	-	12N	113E								
-1193 Aug 24	01:09:53	28861	1045	-39485	38	P	t-	0.7039	1.6108	0.5228	337.8	165.6	-	-	15S	103E								
-1192 Jan 19	07:37:16	28853	1044	-39480	5	N	-a	1.2600	0.5377	-0.4456	191.3	-	-	-	24N	10E								
-1192 Feb 17	17:17:06	28851	1044	-39479	43	N	a-	-1.3673	0.3288	-0.6307	149.5	-	-	-	15N	135W								
-1192 Jul 13	12:31:38	28844	1043	-39474	10	N	-t	-1.3925	0.3160	-0.7098	160.9	-	-	-	25S	68W								
-1192 Aug 12	01:57:36	28842	1043	-39473	48	N	t-	1.3999	0.3200	-0.7406	167.3	-	-	-	18S	91E								
-1191 Jan 07	19:02:11	28834	1042	-39468	15	P	-a	0.6060	1.7657	0.7267	323.2	178.3	-	-	24N	163W								
-1191 Jul 02	23:40:52	28825	1041	-39462	20	P	-a	-0.5834	1.7725	0.8025	304.5	177.7	-	-	24S	124E								
-1191 Dec 27	23:04:26	28816	1040	-39456	25	T-	pp	-0.0915	2.7364	1.6445	373.1	232.2	102.3	-	24N	135E								
-1190 Jun 22	15:56:47	28807	1039	-39450	30	T+	p-	0.1663	2.5234	1.5817	315.4	208.8	93.4	-	23S	121W								
-1190 Dec 16	22:14:24	28797	1037	-39444	35	P	t-	-0.7748	1.4878	0.3856	329.7	144.9	-	-	22N	146E								
-1189 Jun 12	08:49:40	28788	1036	-39438	40	P	a-	0.9134	1.1604	0.2033	261.5	97.2	-	-	21S	15W								
-1189 Nov 06	08:57:29	28780	1035	-39433	7	N	-a	1.4650	0.1857	-0.8453	122.0	-	-	-	14N	17W								
-1189 Dec 06	00:03:53	28779	1035	-39432	45	N	a-	-1.4142	0.2946	-0.7678	157.9	-	-	-	20N	118E								

-1188	May 02	10:30:40	28771	1034	-39427	12	P	-t	-0.9471	1.1374	0.1034	285.5	75.8	-	12S	39W
-1188	Oct 25	21:19:38	28762	1033	-39421	17	P	-a	0.7351	1.4999	0.5184	285.6	147.0	-	10N	157E
-1187	Apr 21	13:07:45	28752	1032	-39415	22	T-	pp	-0.1969	2.5317	1.4622	371.5	231.3	95.8	8S	77W
-1187	Oct 15	13:00:13	28743	1031	-39409	27	T+	-p	0.0630	2.7277	1.7568	320.1	210.5	97.4	5N	77W
-1186	Apr 10	13:55:14	28734	1029	-39403	32	P	t-	0.5597	1.8600	0.8024	344.1	193.0	-	3S	88W
-1186	Oct 05	03:17:51	28724	1028	-39397	37	P	a-	-0.6352	1.6947	0.6902	306.1	169.2	-	0S	69E
-1185	Mar 01	09:30:29	28717	1027	-39392	4	N	-a	-1.3872	0.3074	-0.6819	150.7	-	-	11N	19W
-1185	Mar 30	19:56:29	28715	1027	-39391	42	N	a-	1.2782	0.5174	-0.4920	198.0	-	-	2N	177W
-1185	Aug 25	20:05:44	28707	1026	-39386	9	N	-t	1.5075	0.1294	-0.9446	109.5	-	-	14S	179E
-1185	Sep 24	11:54:32	28706	1026	-39385	47	N	t-	-1.3964	0.3255	-0.7334	166.2	-	-	5S	59W
-1184	Feb 19	00:29:44	28698	1025	-39380	14	P	-a	-0.6428	1.6571	0.6994	290.3	164.6	-	15N	117E
-1184	Aug 13	20:12:45	28689	1024	-39374	19	P	-t	0.8113	1.4113	0.3282	322.7	135.1	-	18S	177E
-1183	Feb 07	16:50:02	28680	1023	-39368	24	T+	pp	0.0543	2.7430	1.7735	322.9	212.6	98.6	18N	128W
-1183	Aug 02	22:26:46	28670	1021	-39362	29	T+	pp	0.0563	2.7765	1.7330	358.5	228.4	103.4	21S	143E
-1182	Jan 28	05:48:53	28661	1020	-39356	34	P	a-	0.7920	1.4148	0.3950	296.3	136.9	-	22N	37E
-1182	Jul 23	07:51:24	28652	1019	-39350	39	P	a-	-0.6892	1.5859	0.6008	299.1	160.6	-	23S	2E
-1182	Dec 18	17:42:44	28644	1018	-39345	6	N	-t	-1.4401	0.2669	-0.8348	158.1	-	-	22N	146W
-1181	Jan 17	11:46:46	28642	1018	-39344	44	N	t-	1.5579	0.0387	-1.0390	60.1	-	-	24N	54W
-1181	Jun 13	16:21:32	28635	1017	-39339	11	N	-a	1.1218	0.7698	-0.1710	217.6	-	-	21S	128W
-1181	Jul 12	23:12:48	28633	1017	-39338	49	N	a-	-1.3767	0.3055	-0.6420	143.9	-	-	25S	130E
-1181	Dec 07	16:47:28	28626	1016	-39333	16	P	-t	-0.7678	1.4974	0.4017	327.4	146.5	-	21N	134W
-1180	Jun 02	08:37:48	28616	1015	-39327	21	T	-a	0.4021	2.1041	1.1359	317.9	199.5	54.2	20S	13W
-1180	Nov 25	20:28:40	28607	1013	-39321	26	T-	pp	-0.0530	2.7838	1.7379	351.1	223.5	101.2	19N	170E
-1179	May 22	19:44:36	28598	1012	-39315	31	T	t-	-0.3809	2.1698	1.1484	342.2	210.3	58.9	18S	179W
-1179	Nov 15	07:25:45	28588	1011	-39309	36	P	a-	0.6289	1.7001	0.7081	300.1	168.0	-	17N	5E
-1178	May 11	23:40:08	28579	1010	-39303	41	N	t-	-1.1823	0.7207	-0.3429	246.1	-	-	16S	122E
-1178	Oct 06	12:08:24	28571	1009	-39298	8	N	-a	-1.4002	0.2765	-0.6988	138.8	-	-	0S	64W
-1178	Nov 04	22:39:12	28570	1009	-39297	46	N	a-	1.2655	0.5215	-0.4498	184.5	-	-	14N	136E
-1177	Apr 01	10:21:27	28562	1008	-39292	13	P	-t	0.8906	1.2479	0.2003	298.8	104.9	-	1N	34W
-1177	Sep 26	01:18:03	28553	1007	-39286	18	P	-a	-0.7623	1.4684	0.4503	298.5	144.2	-	4S	99E
-1176	Mar 20	18:20:47	28544	1005	-39280	23	T+	pp	0.0975	2.6769	1.6812	337.6	219.3	99.6	4N	153W
-1176	Sep 14	07:54:41	28534	1004	-39274	28	T-	pp	-0.0588	2.7858	1.7151	366.4	230.5	103.4	8S	0E
-1175	Mar 10	08:40:21	28525	1003	-39268	33	P	a-	-0.6335	1.6737	0.7171	292.5	167.0	-	8N	8W
-1175	Sep 03	08:22:43	28516	1002	-39262	38	P	t-	0.6602	1.6928	0.6012	343.3	175.3	-	11S	7W
-1174	Jan 29	15:59:28	28508	1001	-39257	5	N	-a	1.2842	0.4930	-0.4897	184.4	-	-	22N	116W
-1174	Feb 28	01:21:22	28507	1001	-39256	43	N	a-	-1.3301	0.3961	-0.5616	163.2	-	-	11N	102E
-1174	Jul 24	19:39:34	28499	1000	-39251	10	N	-t	-1.4505	0.2093	-0.8158	131.7	-	-	24S	176W
-1174	Aug 23	09:15:24	28498	1000	-39250	48	N	t-	1.3492	0.4134	-0.6479	188.1	-	-	15S	20W
-1173	Jan 19	03:11:05	28490	999	-39245	15	P	-a	0.6248	1.7314	0.6920	322.4	175.5	-	23N	75E
-1173	Jul 14	07:07:39	28481	998	-39239	20	P	-a	-0.6467	1.6558	0.6865	297.8	167.1	-	24S	11E

-1172	Jan 08	06:57:53	28471	996	-39233	25	T-	pp	-0.0777	2.7614	1.6702	373.8	232.9	103.1	24N	17E
-1172	Jul 02	23:28:50	28462	995	-39227	30	T+	pp	0.0979	2.6496	1.7065	316.6	210.5	97.3	24S	125E
-1172	Dec 27	06:10:06	28453	994	-39221	35	P	t-	-0.7649	1.5045	0.4052	330.3	147.9	-	23N	27E
-1171	Jun 22	16:10:09	28444	993	-39215	40	P	a-	0.8444	1.2888	0.3281	272.6	121.5	-	22S	126W
-1171	Nov 16	17:32:02	28436	992	-39210	7	N	-a	1.4601	0.1934	-0.8352	124.0	-	-	18N	147W
-1171	Dec 16	08:23:36	28434	992	-39209	45	N	a-	-1.4082	0.3036	-0.7546	159.6	-	-	22N	8W
-1170	May 13	17:09:21	28427	991	-39204	12	N	-t	-1.0314	0.9840	-0.0525	270.9	-	-	16S	141W
-1170	Nov 06	06:07:50	28417	990	-39198	17	P	-a	0.7355	1.4989	0.5179	285.0	146.7	-	14N	24E
-1169	May 02	19:30:12	28408	989	-39192	22	T	pt	-0.2820	2.3753	1.3065	368.6	226.5	83.0	12S	175W
-1169	Oct 26	21:46:28	28399	987	-39186	27	T+	-p	0.0684	2.7191	1.7458	320.5	210.6	97.2	9N	149E
-1168	Apr 20	20:31:34	28390	986	-39180	32	P	t-	0.4806	2.0031	0.9498	349.2	204.1	-	7S	170E
-1168	Oct 15	11:46:26	28380	985	-39174	37	P	a-	-0.6276	1.7112	0.7016	308.2	170.7	-	4N	60W
-1167	Mar 11	17:11:55	28373	984	-39169	4	N	-a	-1.4303	0.2252	-0.7580	129.4	-	-	7N	136W
-1167	Apr 10	03:05:47	28371	984	-39168	42	N	a-	1.2084	0.6426	-0.3610	216.9	-	-	2S	73E
-1167	Sep 05	03:27:19	28364	983	-39163	9	N	-t	1.5485	0.0568	-1.0227	73.3	-	-	10S	66E
-1167	Oct 04	19:52:00	28362	983	-39162	47	N	t-	-1.3828	0.3534	-0.7112	173.4	-	-	1S	179E
-1166	Mar 01	08:32:39	28354	982	-39157	14	P	-a	-0.6836	1.5804	0.6265	285.8	157.5	-	11N	6W
-1166	Aug 25	03:19:33	28345	981	-39151	19	P	-t	0.8591	1.3249	0.2391	315.7	116.7	-	14S	69E
-1165	Feb 19	00:57:44	28336	980	-39145	24	T+	pp	0.0189	2.8073	1.8391	323.6	213.3	99.4	15N	108E
-1165	Aug 14	05:44:49	28327	978	-39139	29	T+	pp	0.1087	2.6804	1.6369	356.8	226.7	100.9	18S	33E
-1164	Feb 08	13:47:40	28317	977	-39133	34	P	a-	0.7658	1.4628	0.4429	300.6	144.3	-	19N	84W
-1164	Aug 02	15:26:55	28308	976	-39127	39	P	a-	-0.6320	1.6908	0.7059	303.9	170.6	-	21S	113W
-1164	Dec 29	01:37:20	28301	975	-39122	6	N	-t	-1.4517	0.2452	-0.8555	151.9	-	-	23N	95E
-1163	Jan 27	19:29:31	28299	975	-39121	44	N	t-	1.5368	0.0769	-0.9999	84.6	-	-	22N	170W
-1163	Jun 23	23:49:12	28291	974	-39116	11	N	-a	1.1923	0.6413	-0.3013	201.4	-	-	22S	119E
-1163	Jul 23	06:54:07	28290	974	-39115	49	N	a-	-1.3173	0.4152	-0.5337	166.0	-	-	24S	14E
-1163	Dec 18	00:51:37	28282	973	-39110	16	P	-t	-0.7721	1.4880	0.3956	325.9	145.2	-	22N	105E
-1162	Jun 13	15:49:00	28273	972	-39104	21	P	-a	0.4802	1.9627	0.9907	314.3	191.9	-	22S	122W
-1162	Dec 07	04:57:51	28264	971	-39098	26	T-	pp	-0.0534	2.7813	1.7392	349.7	222.9	101.0	21N	42E
-1161	Jun 03	02:28:14	28254	969	-39092	31	T	pp	-0.2992	2.3217	1.2965	347.9	217.6	79.4	21S	78E
-1161	Nov 26	16:14:25	28245	968	-39086	36	P	a-	0.6277	1.7012	0.7113	299.3	167.9	-	20N	128W
-1160	May 22	06:00:21	28236	967	-39080	41	N	t-	-1.0969	0.8780	-0.1866	267.8	-	-	19S	25E
-1160	Oct 16	20:48:07	28228	966	-39075	8	N	-a	-1.4113	0.2579	-0.7210	134.6	-	-	4N	164E
-1160	Nov 15	07:32:55	28227	966	-39074	46	N	a-	1.2652	0.5224	-0.4497	184.8	-	-	17N	1E
-1159	Apr 11	17:09:54	28219	965	-39069	13	P	-t	0.9603	1.1173	0.0750	285.5	65.2	-	3S	139W
-1159	Oct 06	09:33:35	28210	964	-39063	18	P	-a	-0.7805	1.4379	0.4140	297.7	139.4	-	0N	27W
-1158	Apr 01	01:43:28	28201	963	-39057	23	T+	pp	0.1591	2.5609	1.5711	334.8	217.1	95.8	0N	94E
-1158	Sep 25	15:38:17	28192	962	-39051	28	T-	pp	-0.0847	2.7410	1.6646	367.6	230.5	102.3	4S	118W
-1157	Mar 21	16:26:52	28182	960	-39045	33	P	a-	-0.5784	1.7728	0.8202	296.5	175.3	-	4N	127W
-1157	Sep 14	15:45:52	28173	959	-39039	38	P	t-	0.6246	1.7598	0.6649	347.4	182.4	-	7S	119W

-1156	Feb 10	00:12:02	28166	958	-39034	5	N	-a	1.3160	0.4343	-0.5479	174.4	-	-	19N	120E
-1156	Mar 10	09:17:08	28164	958	-39033	43	N	a-	-1.2862	0.4759	-0.4804	177.7	-	-	7N	19W
-1156	Aug 04	02:57:44	28156	957	-39028	10	N	-t	-1.5010	0.1164	-0.9082	98.7	-	-	22S	74E
-1156	Sep 02	16:43:47	28155	957	-39027	48	N	t-	1.3059	0.4931	-0.5688	203.3	-	-	11S	134W
-1155	Jan 29	11:10:07	28147	956	-39022	15	P	-a	0.6511	1.6832	0.6436	320.8	171.2	-	21N	46W
-1155	Jul 24	14:42:33	28138	955	-39016	20	P	-a	-0.7042	1.5503	0.5811	291.1	155.9	-	23S	103W
-1154	Jan 18	14:41:55	28129	954	-39010	25	T-	pp	-0.0566	2.7995	1.7095	374.4	233.6	104.1	22N	100W
-1154	Jul 14	07:05:39	28120	953	-39004	30	T+	pp	0.0334	2.7689	1.8238	317.3	211.3	99.0	23S	10E
-1153	Jan 07	13:59:26	28110	952	-38998	35	P	t-	-0.7493	1.5313	0.4358	331.4	152.5	-	23N	90W
-1153	Jul 03	23:33:36	28101	950	-38992	40	P	a-	0.7784	1.4122	0.4472	282.3	139.7	-	23S	122E
-1153	Nov 28	02:07:50	28094	950	-38987	7	N	-a	1.4552	0.2008	-0.8246	125.8	-	-	21N	83E
-1153	Dec 27	16:39:03	28092	949	-38986	45	N	a-	-1.3977	0.3203	-0.7330	163.0	-	-	22N	132W
-1152	May 23	23:45:07	28084	948	-38981	12	N	-t	-1.1169	0.8286	-0.2108	253.6	-	-	19S	118E
-1152	Nov 16	14:59:49	28075	947	-38975	17	P	-a	0.7336	1.5020	0.5219	284.7	146.9	-	17N	111W
-1151	May 13	01:48:13	28066	946	-38969	22	T	-t	-0.3703	2.2130	1.1446	364.2	219.3	60.4	15S	88E
-1151	Nov 06	06:37:15	28057	945	-38963	27	T+	-p	0.0698	2.7176	1.7421	321.0	210.7	97.2	13N	15E
-1150	May 02	03:03:44	28048	944	-38957	32	T	t-	0.3969	2.1545	1.1053	353.5	213.2	51.4	11S	70E
-1150	Oct 26	20:20:03	28039	943	-38951	37	P	a-	-0.6252	1.7180	0.7039	309.8	171.4	-	8N	170E
-1149	Mar 23	00:46:19	28031	942	-38946	4	N	-a	-1.4795	0.1320	-0.8455	99.5	-	-	2N	108E
-1149	Apr 21	10:10:48	28029	942	-38945	42	N	a-	1.1340	0.7764	-0.2217	234.1	-	-	6S	36W
-1149	Oct 16	03:56:05	28020	940	-38939	47	N	t-	-1.3751	0.3703	-0.6997	177.9	-	-	4N	56E
-1148	Mar 11	16:28:59	28013	940	-38934	14	P	-a	-0.7300	1.4935	0.5431	280.4	148.5	-	7N	127W
-1148	Sep 04	10:35:04	28003	938	-38928	19	P	-t	0.8999	1.2513	0.1631	309.2	97.4	-	11S	42W
-1147	Mar 01	08:58:36	27994	937	-38922	24	T-	pp	-0.0218	2.8015	1.8342	324.2	213.8	99.6	12N	14W
-1147	Aug 24	13:12:20	27985	936	-38916	29	T+	pp	0.1540	2.5974	1.5538	354.8	224.6	97.4	15S	81W
-1146	Feb 18	21:36:47	27976	935	-38910	34	P	h-	0.7325	1.5240	0.5040	305.7	153.0	-	16N	157E
-1146	Aug 13	23:11:13	27967	934	-38904	39	P	a-	-0.5813	1.7838	0.7989	307.6	178.1	-	19S	130E
-1145	Jan 09	09:24:39	27959	933	-38899	6	N	-t	-1.4686	0.2133	-0.8856	142.1	-	-	22N	22W
-1145	Feb 08	03:01:39	27958	933	-38898	44	N	t-	1.5078	0.1296	-0.9461	109.5	-	-	20N	76E
-1145	Jul 05	07:21:36	27950	932	-38893	11	N	-a	1.2588	0.5206	-0.4246	183.9	-	-	23S	5E
-1145	Aug 03	14:43:30	27949	932	-38892	49	N	a-	-1.2642	0.5136	-0.4373	182.8	-	-	22S	104W
-1145	Dec 29	08:49:54	27941	931	-38887	16	P	-t	-0.7813	1.4690	0.3805	323.6	142.5	-	23N	15W
-1144	Jun 23	23:03:46	27932	930	-38881	21	P	-a	0.5544	1.8288	0.8523	310.1	183.0	-	23S	129E
-1144	Dec 17	13:24:33	27923	928	-38875	26	T-	pp	-0.0563	2.7737	1.7360	348.1	222.4	100.8	23N	85W
-1143	Jun 13	09:11:21	27913	927	-38869	31	T-	pp	-0.2180	2.4728	1.4433	352.7	223.1	92.0	22S	24W
-1143	Dec 07	01:02:37	27904	926	-38863	36	P	a-	0.6258	1.7034	0.7161	298.7	168.1	-	22N	99E
-1142	Jun 02	12:18:34	27895	925	-38857	41	Nx	t-	-1.0100	1.0382	-0.0279	286.8	-	-	21S	71W
-1142	Oct 28	05:32:55	27887	924	-38852	8	N	-a	-1.4186	0.2462	-0.7360	132.0	-	-	8N	31E
-1142	Nov 26	16:27:06	27886	924	-38851	46	N	a-	1.2655	0.5222	-0.4503	184.8	-	-	20N	133W
-1141	Apr 22	23:52:38	27878	923	-38846	13	N	-t	1.0353	0.9772	-0.0601	269.9	-	-	7S	118E

-1141	Oct 17	17:56:08	27869	922	-38840	18	P	-a	-0.7923	1.4190	0.3898	297.7	136.2	-	5N	155W
-1140	Apr 11	09:00:50	27860	921	-38834	23	T+	pp	0.2262	2.4350	1.4507	331.4	213.7	89.3	4S	18W
-1140	Oct 05	23:28:45	27851	920	-38828	28	T-	pp	-0.1044	2.7077	1.6260	368.8	230.4	101.3	1N	122E
-1139	Apr 01	00:07:29	27842	919	-38822	33	P	a-	-0.5179	1.8818	0.9330	300.6	183.2	-	0S	116E
-1139	Sep 24	23:18:09	27833	917	-38816	38	P	t-	0.5962	1.8135	0.7156	350.5	187.5	-	3S	125E
-1138	Feb 20	08:15:21	27825	917	-38811	5	N	-a	1.3548	0.3628	-0.6187	160.9	-	-	16N	3W
-1138	Mar 21	17:03:59	27824	916	-38810	43	N	a-	-1.2356	0.5681	-0.3869	192.7	-	-	3N	138W
-1138	Aug 15	10:25:09	27816	915	-38805	10	Ne	-h	-1.5449	0.0357	-0.9887	54.8	-	-	19S	39W
-1138	Sep 14	00:22:57	27814	915	-38804	48	N	h-	1.2704	0.5585	-0.5039	214.5	-	-	7S	110E
-1137	Feb 09	18:59:36	27807	914	-38799	15	P	-a	0.6843	1.6224	0.5828	318.3	165.1	-	19N	164W
-1137	Aug 04	22:25:29	27798	913	-38793	20	P	-a	-0.7556	1.4562	0.4867	284.6	144.4	-	21S	140E
-1136	Jan 29	22:17:25	27788	912	-38787	25	T-	pp	-0.0289	2.8494	1.7611	374.9	234.3	105.0	21N	146E
-1136	Jul 24	14:48:59	27779	911	-38781	30	T-	pp	-0.0255	2.7847	1.8371	317.6	211.3	99.0	22S	106W
-1135	Jan 17	21:43:30	27770	910	-38775	35	P	t-	-0.7289	1.5666	0.4754	333.0	158.1	-	22N	153E
-1135	Jul 14	06:59:51	27761	909	-38769	40	P	a-	0.7153	1.5303	0.5605	290.9	154.1	-	23S	10E
-1135	Dec 08	10:43:54	27754	908	-38764	7	N	-a	1.4508	0.2069	-0.8148	127.2	-	-	23N	47W
-1134	Jan 07	00:51:12	27752	908	-38763	45	N	a-	-1.3838	0.3431	-0.7047	167.6	-	-	22N	105E
-1134	Jun 04	06:19:01	27744	907	-38758	12	N	-t	-1.2027	0.6729	-0.3700	233.0	-	-	22S	18E
-1134	Jul 03	18:28:09	27743	906	-38757	50	Nb	t-	1.5267	0.0672	-0.9534	75.5	-	-	22S	163W
-1134	Nov 27	23:51:33	27735	906	-38752	17	P	-a	0.7321	1.5039	0.5253	284.4	147.1	-	20N	116E
-1133	May 24	08:05:13	27726	904	-38746	22	P	-t	-0.4592	2.0499	0.9816	358.6	209.6	-	19S	8W
-1133	Nov 17	15:29:08	27717	903	-38740	27	T+	-p	0.0702	2.7176	1.7406	321.5	210.9	97.2	17N	119W
-1132	May 12	09:36:13	27708	902	-38734	32	T	t-	0.3127	2.3072	1.2616	356.6	220.2	76.7	15S	30W
-1132	Nov 06	04:55:20	27699	901	-38728	37	P	a-	-0.6247	1.7209	0.7027	311.1	171.7	-	13N	39E
-1131	Apr 02	08:15:38	27691	900	-38723	4	Ne	-a	-1.5334	0.0304	-0.9418	48.0	-	-	2S	7W
-1131	May 01	17:14:22	27690	900	-38722	42	N	a-	1.0570	0.9151	-0.0782	249.4	-	-	10S	144W
-1131	Oct 26	12:04:22	27681	899	-38716	47	N	t-	-1.3713	0.3794	-0.6951	180.6	-	-	8N	68W
-1130	Mar 23	00:16:06	27673	898	-38711	14	P	-a	-0.7842	1.3926	0.4452	273.7	136.5	-	3N	114E
-1130	Sep 15	18:01:46	27664	897	-38705	19	P	-t	0.9318	1.1939	0.1035	303.8	78.2	-	7S	156W
-1129	Mar 12	16:48:35	27655	896	-38699	24	T-	pp	-0.0710	2.7108	1.7442	324.6	213.8	98.9	8N	133W
-1129	Sep 04	20:51:37	27646	895	-38693	29	T+	pp	0.1905	2.5305	1.4867	352.8	222.5	93.8	11S	163E
-1128	Mar 01	05:14:32	27636	894	-38687	34	P	h-	0.6908	1.6007	0.5806	311.4	162.8	-	12N	41E
-1128	Aug 24	07:05:45	27627	892	-38681	39	P	a-	-0.5383	1.8627	0.8776	310.3	183.6	-	16S	9E
-1127	Jan 19	17:05:06	27620	892	-38676	6	N	-t	-1.4904	0.1721	-0.9245	128.2	-	-	21N	138W
-1127	Feb 18	10:24:04	27618	891	-38675	44	N	t-	1.4716	0.1953	-0.8791	133.9	-	-	17N	36W
-1127	Jul 15	14:57:07	27611	890	-38670	11	N	-a	1.3223	0.4056	-0.5425	164.3	-	-	22S	110W
-1127	Aug 13	22:39:15	27609	890	-38669	49	N	a-	-1.2164	0.6024	-0.3508	196.2	-	-	19S	136E
-1126	Jan 08	16:45:05	27602	889	-38664	16	P	-t	-0.7935	1.4443	0.3604	320.7	138.9	-	23N	134W
-1126	Jul 05	06:19:27	27593	888	-38658	21	P	-a	0.6266	1.6989	0.7175	305.2	172.3	-	23S	19E
-1126	Dec 28	21:48:27	27584	887	-38652	26	T-	pp	-0.0622	2.7602	1.7275	346.5	221.8	100.6	24N	149E

-1125	Jun 24	15:55:19	27574	886	-38646	31	T-	pp	-0.1386	2.6210	1.5867	356.5	226.9	99.8	24S	126W
-1125	Dec 18	09:49:20	27565	885	-38640	36	P	a-	0.6227	1.7074	0.7232	298.1	168.4	-	24N	33W
-1124	Jun 12	18:38:45	27556	884	-38634	41	P	t-	-0.9244	1.1961	0.1282	303.1	86.9	-	23S	167W
-1124	Nov 07	14:19:56	27549	883	-38629	8	N	-a	-1.4237	0.2381	-0.7469	130.2	-	-	12N	102W
-1124	Dec 07	01:20:10	27547	883	-38628	46	N	a-	1.2654	0.5223	-0.4502	184.9	-	-	23N	93E
-1123	May 03	06:35:11	27540	882	-38623	13	N	-t	1.1109	0.8361	-0.1965	252.2	-	-	11S	15E
-1123	Oct 28	02:21:49	27530	881	-38617	18	P	-a	-0.8007	1.4060	0.3719	298.0	133.8	-	9N	77E
-1122	Apr 22	16:14:36	27521	880	-38611	23	T	-p	0.2971	2.3023	1.3231	327.2	209.2	79.1	8S	129W
-1122	Oct 17	07:25:17	27512	879	-38605	28	T-	pp	-0.1183	2.6844	1.5981	369.9	230.4	100.5	5N	1E
-1121	Apr 12	07:42:40	27503	877	-38599	33	T	a-	-0.4528	1.9998	1.0540	304.4	190.3	34.2	5S	1W
-1121	Oct 06	06:58:45	27494	876	-38593	38	P	t-	0.5745	1.8544	0.7542	352.7	191.2	-	1N	8E
-1120	Mar 02	16:08:27	27487	875	-38588	5	N	-a	1.4012	0.2776	-0.7037	142.3	-	-	12N	123W
-1120	Apr 01	00:43:33	27485	875	-38587	43	N	a-	-1.1797	0.6705	-0.2839	207.6	-	-	1S	105E
-1120	Sep 24	08:12:37	27476	874	-38581	48	N	h-	1.2427	0.6094	-0.4532	222.4	-	-	3S	10W
-1119	Feb 20	02:38:08	27468	873	-38576	15	P	-h	0.7256	1.5465	0.5070	314.6	156.3	-	15N	80E
-1119	Aug 15	06:16:46	27459	872	-38570	20	P	-a	-0.8006	1.3739	0.4038	278.5	132.9	-	19S	21E
-1118	Feb 09	05:42:13	27450	871	-38564	25	T+	pp	0.0072	2.8883	1.8021	375.2	234.7	105.4	18N	34E
-1118	Aug 04	22:39:02	27441	870	-38558	30	T-	pp	-0.0789	2.6883	1.7378	317.6	210.7	97.7	20S	135E
-1117	Jan 29	05:17:36	27432	869	-38552	35	P	t-	-0.6998	1.6175	0.5313	335.4	165.4	-	20N	39E
-1117	Jul 25	14:31:48	27423	868	-38546	40	P	a-	0.6575	1.6390	0.6639	298.3	165.4	-	22S	104W
-1117	Dec 19	19:17:58	27415	867	-38541	7	N	-a	1.4490	0.2081	-0.8093	127.0	-	-	25N	175W
-1116	Jan 18	08:56:57	27414	867	-38540	45	N	a-	-1.3637	0.3770	-0.6649	174.4	-	-	21N	17W
-1116	Jun 14	12:52:31	27406	866	-38535	12	N	-t	-1.2874	0.5194	-0.5273	208.6	-	-	24S	81W
-1116	Jul 14	01:27:36	27405	866	-38534	50	N	t-	1.4638	0.1856	-0.8409	124.8	-	-	22S	92E
-1116	Dec 08	08:43:04	27397	865	-38529	17	P	-a	0.7312	1.5045	0.5279	283.9	147.3	-	23N	18W
-1115	Jun 03	14:21:34	27388	864	-38523	22	P	-t	-0.5484	1.8864	0.8177	351.4	197.1	-	21S	104W
-1115	Nov 28	00:22:23	27379	862	-38517	27	T+	-p	0.0689	2.7205	1.7422	322.0	211.1	97.3	20N	107E
-1114	May 23	16:06:47	27370	861	-38511	32	T+	pp	0.2260	2.4646	1.4222	358.8	225.3	91.5	18S	130W
-1114	Nov 17	13:33:27	27361	860	-38505	37	P	a-	-0.6275	1.7176	0.6958	312.1	171.6	-	16N	92W
-1113	May 13	00:16:46	27352	859	-38499	42	P	a-	0.9780	1.0579	0.0690	262.9	59.6	-	14S	108E
-1113	Nov 06	20:15:42	27343	858	-38493	47	N	t-	-1.3707	0.3826	-0.6959	182.0	-	-	12N	168E
-1112	Apr 02	07:58:16	27335	857	-38488	14	P	-a	-0.8426	1.2841	0.3393	265.9	121.0	-	1S	4W
-1112	Sep 26	01:37:31	27326	856	-38482	19	P	-t	0.9566	1.1494	0.0571	299.3	58.3	-	2S	88E
-1111	Mar 23	00:31:45	27317	855	-38476	24	T-	-p	-0.1253	2.6110	1.6448	324.6	213.3	96.7	3N	109E
-1111	Sep 15	04:39:53	27308	854	-38470	29	T+	pp	0.2203	2.4759	1.4321	350.9	220.4	90.1	7S	44E
-1110	Mar 12	12:43:05	27299	853	-38464	34	P	t-	0.6425	1.6894	0.6690	317.6	172.8	-	8N	73W
-1110	Sep 04	15:09:32	27290	852	-38458	39	P	a-	-0.5028	1.9281	0.9426	312.1	187.6	-	12S	113W
-1109	Jan 31	00:35:00	27283	851	-38453	6	N	-t	-1.5198	0.1168	-0.9771	106.1	-	-	19N	109E
-1109	Mar 01	17:34:41	27281	851	-38452	44	N	t-	1.4268	0.2769	-0.7961	158.5	-	-	13N	145W
-1109	Jul 26	22:39:53	27274	850	-38447	11	N	-a	1.3795	0.3025	-0.6491	143.6	-	-	21S	134E

-1109	Aug 25	06:44:22	27272	850	-38446	49	N	a-	-1.1765	0.6770	-0.2789	206.5	-	-	16S	13E
-1108	Jan 20	00:32:26	27264	849	-38441	16	P	-t	-0.8120	1.4079	0.3291	316.9	133.1	-	22N	109E
-1108	Jul 15	13:40:01	27255	848	-38435	21	P	-a	0.6936	1.5786	0.5918	299.9	160.2	-	23S	92W
-1107	Jan 08	06:06:54	27246	847	-38429	26	T-	pp	-0.0732	2.7375	1.7102	344.8	221.1	100.2	23N	24E
-1107	Jul 04	22:42:19	27237	845	-38423	31	T-	pp	-0.0629	2.7625	1.7230	359.3	229.2	103.7	24S	132E
-1107	Dec 28	18:31:44	27228	844	-38417	36	P	a-	0.6157	1.7186	0.7379	297.9	169.4	-	24N	163W
-1106	Jun 24	01:00:18	27219	843	-38411	41	P	t-	-0.8398	1.3524	0.2823	317.2	126.2	-	24S	96E
-1106	Nov 18	23:09:28	27212	842	-38406	8	N	-a	-1.4267	0.2338	-0.7536	129.4	-	-	16N	124E
-1106	Dec 18	10:10:35	27210	842	-38405	46	N	a-	1.2636	0.5254	-0.4465	185.5	-	-	24N	40W
-1105	May 14	13:15:49	27203	841	-38400	13	N	-t	1.1885	0.6917	-0.3368	231.8	-	-	14S	87W
-1105	Jun 13	02:00:00	27201	841	-38399	51	Nb	t-	-1.5697	0.0046	-1.0483	20.7	-	-	24S	81E
-1105	Nov 08	10:51:02	27194	840	-38394	18	P	-a	-0.8054	1.3996	0.3612	298.8	132.5	-	13N	52W
-1104	May 02	23:26:10	27185	839	-38388	23	T	-p	0.3706	2.1653	1.1904	322.2	203.2	63.4	12S	121E
-1104	Oct 27	15:27:37	27176	838	-38382	28	T-	pp	-0.1267	2.6711	1.5808	371.0	230.5	99.9	10N	121W
-1103	Apr 22	15:12:37	27167	837	-38376	33	T	a-	-0.3829	2.1266	1.1835	307.9	196.7	60.7	9S	116W
-1103	Oct 16	14:47:17	27158	836	-38370	38	P	t-	0.5590	1.8839	0.7818	354.1	193.6	-	6N	111W
-1102	Mar 13	23:52:52	27150	835	-38365	5	N	-a	1.4539	0.1807	-0.8004	116.1	-	-	8N	119E
-1102	Apr 12	08:16:04	27149	835	-38364	43	N	a-	-1.1184	0.7827	-0.1714	222.2	-	-	5S	11W
-1102	Oct 05	16:11:50	27140	834	-38358	48	N	h-	1.2215	0.6482	-0.4143	227.8	-	-	2N	132W
-1101	Mar 03	10:05:56	27132	833	-38353	15	P	-h	0.7749	1.4561	0.4167	309.5	144.2	-	12N	34W
-1101	Aug 26	14:17:19	27123	832	-38347	20	P	-a	-0.8388	1.3043	0.3333	273.0	121.7	-	15S	100W
-1100	Feb 20	12:58:19	27114	831	-38341	25	T+	pp	0.0502	2.8081	1.7243	375.2	234.8	105.0	15N	77W
-1100	Aug 15	06:35:35	27105	830	-38335	30	T-	-p	-0.1267	2.6022	1.6484	317.3	209.6	95.4	18S	15E

11TH CENTURY BCE

In the 11th century BCE the total number of lunar eclipses was 240 lunar eclipses:

**88 penumbral lunar eclipses, 86 partial lunar eclipses, 66 total lunar eclipses
(48 central total lunar eclipses, 18 non-central total lunar eclipses).**

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG

		GREATEST	S							m	m	m	o	o
ECLIPSE														
-1099 Feb 08	12:45:36	27096	829	-38329	35	P	t-	-0.6650	1.6788	0.5977	338.1	173.3	-	17N 74W
-1099 Aug 04	22:09:03	27087	828	-38323	40	P	a-	0.6046	1.7388	0.7581	304.7	174.5	-	20S 141E
-1099 Dec 30	03:48:21	27079	827	-38318	7	N	-a	1.4507	0.2025	-0.8101	124.9	-	-	25N 57E
-1098 Jan 28	16:56:05	27078	826	-38317	45	N	a-	-1.3374	0.4220	-0.6136	182.9	-	-	19N 137W
-1098 Jun 25	19:27:17	27070	826	-38312	12	N	-t	-1.3697	0.3705	-0.6805	179.3	-	-	25S 179E
-1098 Jul 25	08:31:43	27069	825	-38311	50	N	t-	1.4051	0.2963	-0.7362	156.9	-	-	21S 15W
-1098 Dec 19	17:31:28	27061	825	-38306	17	P	-a	0.7334	1.4994	0.5251	283.1	146.8	-	24N 150W
-1097 Jun 14	20:41:14	27052	823	-38300	22	P	-t	-0.6347	1.7284	0.6589	343.2	181.8	-	23S 160E
-1097 Dec 09	09:12:33	27043	822	-38294	27	T+	-p	0.0702	2.7186	1.7396	322.5	211.3	97.4	22N 26W
-1096 Jun 02	22:41:39	27034	821	-38288	32	T+	pp	0.1418	2.6178	1.5781	359.7	228.4	100.0	20S 130E
-1095 Nov 27	22:10:37	27025	820	-38282	37	P	a-	-0.6300	1.7146	0.6899	313.1	171.5	-	19N 138E
-1095 May 23	07:19:15	27016	819	-38276	42	P	a-	0.8977	1.2034	0.2182	274.8	103.4	-	17S 1E
-1095 Nov 17	04:28:46	27007	818	-38270	47	N	t-	-1.3719	0.3820	-0.6997	182.4	-	-	15N 43E
-1094 Apr 13	15:33:21	27000	817	-38265	14	P	-a	-0.9071	1.1647	0.2220	256.5	99.6	-	6S 121W
-1094 Oct 07	09:23:14	26991	816	-38259	19	P	-t	0.9735	1.1190	0.0254	295.9	39.0	-	2N 30W
-1093 Apr 03	08:04:55	26982	815	-38253	24	T-	-p	-0.1873	2.4972	1.5309	324.1	211.8	92.4	1S 7W
-1093 Sep 26	12:39:45	26973	814	-38247	29	T+	-p	0.2414	2.4371	1.3935	349.0	218.6	87.0	3S 78W
-1092 Mar 22	20:01:23	26964	813	-38241	34	P	t-	0.5867	1.7920	0.7711	324.1	183.0	-	4N 175E
-1092 Sep 14	23:22:20	26955	812	-38235	39	P	a-	-0.4741	1.9809	0.9949	313.4	190.4	-	8S 122E
-1091 Feb 10	07:56:49	26947	811	-38230	6	Ne	-t	-1.5551	0.0504	-1.0404	70.0	-	-	16N 2W
-1091 Mar 12	00:36:03	26946	811	-38229	44	N	t-	1.3748	0.3715	-0.7000	182.3	-	-	9N 107E
-1091 Aug 06	06:28:12	26938	810	-38224	11	N	-a	1.4317	0.2088	-0.7469	120.6	-	-	19S 16E
-1091 Sep 04	14:57:06	26937	810	-38223	49	N	a-	-1.1430	0.7399	-0.2188	214.6	-	-	12S 111W
-1090 Jan 30	08:13:06	26929	809	-38218	16	P	-t	-0.8366	1.3597	0.2867	311.9	124.7	-	20N 7W
-1090 Jul 26	21:04:22	26920	808	-38212	21	P	-a	0.7566	1.4661	0.4733	294.3	146.4	-	21S 156E
-1089 Jan 19	14:20:24	26912	807	-38206	26	T-	pp	-0.0892	2.7051	1.6838	342.9	220.3	99.5	22N 99W
-1089 Jul 16	05:33:14	26902	806	-38200	31	T+	pp	0.0090	2.8642	1.8191	361.3	230.2	104.8	23S 28E
-1088 Jan 09	03:09:15	26893	805	-38194	36	P	a-	0.6043	1.7375	0.7607	298.0	171.1	-	24N 67E
-1088 Jul 04	07:27:17	26885	804	-38188	41	P	t-	-0.7594	1.5013	0.4287	328.9	152.2	-	25S 1W
-1088 Nov 29	07:58:53	26877	803	-38183	8	N	-a	-1.4296	0.2296	-0.7597	128.5	-	-	19N 9W
-1088 Dec 28	18:57:26	26876	803	-38182	46	N	a-	1.2593	0.5328	-0.4384	186.8	-	-	25N 171W
-1087 May 24	19:57:25	26868	802	-38177	13	N	-t	1.2659	0.5477	-0.4771	208.3	-	-	17S 171E
-1087 Jun 23	08:32:18	26867	801	-38176	51	N	t-	-1.4860	0.1575	-0.8942	119.3	-	-	25S 18W
-1087 Nov 18	19:20:58	26859	801	-38171	18	P	-a	-0.8088	1.3952	0.3531	299.6	131.5	-	16N 180E
-1086 May 14	06:36:44	26850	800	-38165	23	T	-a	0.4455	2.0259	1.0548	316.5	195.7	35.4	15S 11E
-1086 Nov 07	23:32:09	26841	798	-38159	28	T-	pp	-0.1329	2.6613	1.5678	371.9	230.6	99.5	14N 116E
-1085 May 03	22:39:31	26832	797	-38153	33	T	p-	-0.3103	2.2590	1.3178	311.0	201.9	76.4	12S 130E

-1085	Oct 27	22:41:53	26823	796	-38147	38	P	t-	0.5482	1.9041	0.8010	355.0	195.1	-	10N	129E
-1084	Mar 24	07:28:14	26816	795	-38142	5	Ne	-a	1.5134	0.0718	-0.9096	74.2	-	-	4N	3E
-1084	Apr 22	15:43:14	26814	795	-38141	43	N	a-	-1.0531	0.9028	-0.0517	236.2	-	-	9S	125W
-1084	Oct 16	00:18:13	26805	794	-38135	48	N	a-	1.2054	0.6776	-0.3844	231.6	-	-	6N	105E
-1083	Mar 13	17:23:07	26798	793	-38130	15	P	-t	0.8319	1.3515	0.3120	302.8	127.2	-	8N	145W
-1083	Sep 05	22:26:58	26789	792	-38124	20	P	-a	-0.8701	1.2473	0.2753	268.2	111.3	-	12S	136E
-1082	Mar 02	20:01:45	26780	791	-38118	25	T+	pp	0.1033	2.7096	1.6282	374.7	234.1	103.0	11N	175E
-1082	Aug 26	14:40:39	26771	790	-38112	30	T-	-p	-0.1672	2.5297	1.5722	317.0	208.4	92.6	15S	108W
-1081	Feb 19	20:03:08	26762	789	-38106	35	P	t-	-0.6211	1.7566	0.6810	341.5	182.1	-	14N	175E
-1081	Aug 16	05:53:28	26753	788	-38100	40	P	a-	0.5585	1.8264	0.8397	310.1	181.5	-	17S	24E
-1080	Jan 10	12:13:25	26746	787	-38095	7	N	-a	1.4575	0.1875	-0.8199	119.9	-	-	25N	69W
-1080	Feb 09	00:47:28	26744	787	-38094	45	N	a-	-1.3041	0.4799	-0.5492	193.1	-	-	17N	104E
-1080	Jul 06	02:05:27	26737	786	-38089	12	N	-t	-1.4482	0.2289	-0.8268	143.3	-	-	25S	79E
-1080	Aug 04	15:42:01	26735	786	-38088	50	N	t-	1.3519	0.3972	-0.6417	180.8	-	-	19S	124W
-1080	Dec 30	02:17:13	26728	785	-38083	17	P	-a	0.7381	1.4894	0.5178	282.1	145.8	-	25N	79E
-1079	Jun 25	03:02:10	26719	784	-38077	22	P	-t	-0.7199	1.5727	0.5022	333.5	162.8	-	24S	64E
-1079	Dec 19	18:01:30	26710	783	-38071	27	T+	-p	0.0721	2.7153	1.7360	323.0	211.6	97.4	23N	159W
-1078	Jun 14	05:18:21	26701	782	-38065	32	T+	pp	0.0579	2.7705	1.7331	359.6	229.7	104.1	22S	30E
-1078	Dec 09	06:46:15	26692	781	-38059	37	P	a-	-0.6320	1.7120	0.6849	314.1	171.5	-	21N	9E
-1077	Jun 03	14:23:58	26683	780	-38053	42	P	a-	0.8182	1.3477	0.3656	284.9	130.6	-	20S	107W
-1077	Nov 28	12:42:05	26674	779	-38047	47	N	t-	-1.3736	0.3801	-0.7040	182.5	-	-	18N	81W
-1076	Apr 23	23:05:21	26666	778	-38042	14	P	-a	-0.9740	1.0412	0.1001	245.8	68.0	-	10S	124E
-1076	May 23	05:40:03	26665	778	-38041	52	Nb	a-	1.5116	0.0561	-0.8875	63.2	-	-	17S	24E
-1076	Oct 17	17:15:01	26658	777	-38036	19	P	-t	0.9858	1.0969	0.0024	293.3	12.1	-	7N	150W
-1075	Apr 13	15:33:04	26649	776	-38030	24	T-	-p	-0.2528	2.3773	1.4105	323.1	209.3	85.4	5S	122W
-1075	Oct 06	20:47:41	26640	775	-38024	29	T+	-p	0.2564	2.4092	1.3661	347.4	217.0	84.6	2N	157E
-1074	Apr 03	03:10:09	26631	774	-38018	34	P	t-	0.5241	1.9073	0.8854	330.6	192.9	-	0S	65E
-1074	Sep 26	07:44:19	26622	773	-38012	39	T	a-	-0.4527	2.0204	1.0340	314.1	192.2	27.7	3S	6W
-1073	Mar 23	07:27:01	26613	772	-38006	44	N	t-	1.3149	0.4807	-0.5895	205.6	-	-	5N	2E
-1073	Aug 17	14:24:46	26605	771	-38001	11	N	-a	1.4770	0.1277	-0.8323	95.2	-	-	16S	105W
-1073	Sep 15	23:18:25	26604	771	-38000	49	N	a-	-1.1166	0.7897	-0.1717	220.7	-	-	8S	121E
-1072	Feb 10	15:44:54	26596	770	-37995	16	P	-t	-0.8689	1.2976	0.2305	305.7	112.5	-	17N	121W
-1072	Aug 06	04:36:02	26587	769	-37989	21	P	-a	0.8125	1.3667	0.3677	288.9	131.5	-	19S	42E
-1071	Jan 29	22:26:37	26579	768	-37983	26	T-	pp	-0.1117	2.6606	1.6455	340.9	219.3	98.4	20N	138E
-1071	Jul 26	12:28:38	26570	767	-37977	31	T+	pp	0.0761	2.7440	1.6932	362.6	230.0	103.3	22S	76W
-1070	Jan 19	11:40:31	26561	766	-37971	36	P	a-	0.5876	1.7660	0.7934	298.6	173.5	-	23N	61W
-1070	Jul 15	13:59:23	26552	765	-37965	41	P	t-	-0.6832	1.6424	0.5669	338.7	171.2	-	24S	100W
-1070	Dec 10	16:46:19	26544	764	-37960	8	N	-a	-1.4336	0.2228	-0.7678	127.0	-	-	21N	141W
-1069	Jan 09	03:37:38	26543	764	-37959	46	N	a-	1.2504	0.5485	-0.4214	189.4	-	-	25N	59E
-1069	Jun 05	02:41:00	26535	763	-37954	13	N	-t	1.3421	0.4065	-0.6153	181.1	-	-	20S	68E

-1069	Jul 04	15:11:05	26534	763	-37953	51	N	t-	-1.4064	0.3032	-0.7478	162.9	-	-	25S	118W
-1069	Nov 30	03:51:18	26526	762	-37948	18	P	-a	-0.8107	1.3932	0.3482	300.6	131.1	-	19N	51E
-1068	May 24	13:47:31	26518	761	-37942	23	P	-a	0.5210	1.8857	0.9179	309.9	186.6	-	18S	99W
-1068	Nov 18	07:39:01	26509	760	-37936	28	T-	pp	-0.1365	2.6560	1.5600	372.8	230.8	99.2	17N	7W
-1067	May 14	06:04:02	26500	759	-37930	33	T-	p-	-0.2355	2.3955	1.4555	313.5	206.1	87.0	16S	17E
-1067	Nov 07	06:42:00	26491	758	-37924	38	P	t-	0.5415	1.9166	0.8131	355.3	196.0	-	14N	7E
-1066	May 03	23:04:27	26482	757	-37918	43	P	a-	-0.9833	1.0313	0.0758	249.6	60.3	-	13S	122E
-1066	Oct 27	08:32:40	26473	756	-37912	48	N	a-	1.1949	0.6963	-0.3646	233.6	-	-	10N	21W
-1065	Mar 25	00:30:54	26466	755	-37907	15	P	-t	0.8955	1.2350	0.1952	294.2	102.6	-	3N	105E
-1065	Sep 17	06:45:07	26457	754	-37901	20	P	-a	-0.8950	1.2023	0.2291	264.2	102.1	-	7S	9E
-1064	Mar 13	02:57:27	26448	753	-37895	25	T+	pp	0.1622	2.6001	1.5211	373.5	232.5	98.8	7N	69E
-1064	Sep 05	22:53:22	26439	752	-37889	30	T-	-p	-0.2011	2.4693	1.5082	316.8	207.2	89.6	11S	127E
-1063	Mar 02	03:14:05	26430	751	-37883	35	P	t-	-0.5710	1.8456	0.7756	344.9	190.8	-	11N	66E
-1063	Aug 26	13:44:04	26421	749	-37877	40	P	a-	0.5182	1.9035	0.9107	314.8	187.2	-	14S	96W
-1062	Jan 20	20:33:08	26414	749	-37872	7	N	-a	1.4693	0.1630	-0.8388	111.6	-	-	24N	166E
-1062	Feb 19	08:32:05	26412	748	-37871	45	N	a-	-1.2642	0.5497	-0.4727	204.3	-	-	14N	14W
-1062	Jul 17	08:48:24	26405	748	-37866	12	Ne	-t	-1.5218	0.0964	-0.9642	94.4	-	-	25S	22W
-1062	Aug 15	22:59:21	26403	747	-37865	50	N	t-	1.3046	0.4872	-0.5583	199.5	-	-	16S	125E
-1061	Jan 10	10:55:58	26396	747	-37860	17	P	-a	0.7491	1.4677	0.4992	280.3	143.5	-	24N	51W
-1061	Jul 06	09:30:22	26387	746	-37854	22	P	-t	-0.7991	1.4280	0.3560	323.2	140.1	-	25S	34W
-1061	Dec 31	02:44:44	26378	745	-37848	27	T+	-p	0.0788	2.7028	1.7236	323.5	211.9	97.4	24N	70E
-1060	Jun 24	12:01:23	26369	743	-37842	32	T-	pp	-0.0217	2.8361	1.8005	358.4	229.3	104.6	24S	72W
-1060	Dec 19	15:17:25	26360	742	-37836	37	P	a-	-0.6310	1.7148	0.6860	315.3	172.1	-	23N	119W
-1059	Jun 13	21:31:59	26351	741	-37830	42	P	a-	0.7400	1.4899	0.5103	293.5	150.4	-	22S	145E
-1059	Dec 08	20:52:49	26343	740	-37824	47	N	t-	-1.3739	0.3804	-0.7053	183.1	-	-	21N	156E
-1058	May 05	06:31:34	26335	740	-37819	14	N	-a	-1.0455	0.9095	-0.0308	233.0	-	-	14S	10E
-1058	Jun 03	13:01:53	26334	739	-37818	52	N	a-	1.4376	0.1914	-0.7513	115.1	-	-	19S	88W
-1058	Oct 29	01:15:15	26326	739	-37813	19	Nx	-t	0.9916	1.0862	-0.0084	291.8	-	-	11N	88E
-1057	Apr 24	22:53:34	26317	738	-37807	24	T	-a	-0.3241	2.2472	1.2792	321.2	205.4	74.0	9S	126E
-1057	Oct 18	05:04:19	26308	737	-37801	29	T+	-p	0.2652	2.3926	1.3504	345.9	215.9	83.0	6N	31E
-1056	Apr 13	10:10:28	26300	735	-37795	34	T	t-	0.4554	2.0340	1.0109	337.0	202.1	16.6	5S	42W
-1056	Oct 06	16:14:46	26291	734	-37789	39	T	a-	-0.4377	2.0481	1.0615	314.3	193.3	36.8	1N	136W
-1055	Apr 02	14:08:56	26282	733	-37783	44	N	t-	1.2478	0.6032	-0.4658	227.9	-	-	0N	101W
-1055	Aug 27	22:27:38	26274	733	-37778	11	N	-a	1.5170	0.0566	-0.9079	64.0	-	-	12S	133E
-1055	Sep 26	07:47:11	26273	732	-37777	49	N	a-	-1.0965	0.8280	-0.1363	225.2	-	-	4S	8W
-1054	Feb 20	23:09:51	26266	732	-37772	16	P	-t	-0.9073	1.2240	0.1631	298.0	95.3	-	13N	126E
-1054	Aug 17	12:13:19	26257	731	-37766	21	P	-a	0.8626	1.2779	0.2725	283.5	115.2	-	16S	73W
-1053	Feb 10	06:25:50	26248	730	-37760	26	T-	pp	-0.1409	2.6039	1.5951	338.6	218.0	96.6	17N	18E
-1053	Aug 06	19:30:43	26239	729	-37754	31	T+	pp	0.1367	2.6359	1.5790	363.3	229.0	99.9	20S	177E
-1052	Jan 30	20:05:57	26230	727	-37748	36	P	a-	0.5661	1.8034	0.8350	299.5	176.6	-	21N	172E

-1052	Jul 25	20:38:02	26221	726	-37742	41	P	t-	-0.6122	1.7742	0.6958	346.7	185.7	-	23S	160E
-1052	Dec 21	01:30:25	26214	726	-37737	8	N	-a	-1.4400	0.2116	-0.7800	124.2	-	-	22N	87E
-1051	Jan 19	12:12:08	26212	725	-37736	46	N	a-	1.2374	0.5716	-0.3969	193.1	-	-	24N	70W
-1051	Jun 15	09:28:52	26205	725	-37731	13	N	-t	1.4152	0.2710	-0.7481	149.1	-	-	21S	35W
-1051	Jul 14	21:57:04	26204	724	-37730	51	N	t-	-1.3315	0.4404	-0.6101	193.4	-	-	25S	140E
-1051	Dec 10	12:18:22	26196	724	-37725	18	P	-a	-0.8149	1.3867	0.3394	301.2	130.0	-	21N	76W
-1050	Jun 04	20:59:50	26187	723	-37719	23	P	-a	0.5961	1.7468	0.7815	302.6	175.8	-	20S	152E
-1050	Nov 29	15:45:00	26178	722	-37713	28	T-	pp	-0.1404	2.6496	1.5520	373.5	231.0	99.0	20N	129W
-1049	May 25	13:28:31	26169	721	-37707	33	T-	p-	-0.1605	2.5329	1.5934	315.3	209.1	93.9	19S	95W
-1049	Nov 18	14:43:34	26161	720	-37701	38	P	t-	0.5357	1.9270	0.8240	355.4	196.7	-	18N	115W
-1048	May 14	06:23:19	26152	719	-37695	43	P	a-	-0.9121	1.1628	0.2056	262.0	97.8	-	17S	11E
-1048	Nov 06	16:52:02	26143	718	-37689	48	N	a-	1.1877	0.7085	-0.3506	234.6	-	-	15N	147W
-1047	Apr 04	07:28:21	26135	717	-37684	15	P	-t	0.9664	1.1051	0.0647	283.2	60.4	-	1S	1W
-1047	Sep 27	15:12:00	26127	716	-37678	20	P	-a	-0.9133	1.1693	0.1951	261.1	94.5	-	3S	120W
-1046	Mar 24	09:42:11	26118	715	-37672	25	T+	pp	0.2299	2.4747	1.3982	371.5	229.5	91.1	3N	34W
-1046	Sep 17	07:14:46	26109	714	-37666	30	T-	-p	-0.2278	2.4223	1.4574	316.6	206.0	86.7	7S	0W
-1045	Mar 13	10:15:13	26100	713	-37660	35	P	t-	-0.5120	1.9510	0.8866	348.5	199.6	-	7N	42W
-1045	Sep 06	21:43:18	26091	712	-37654	40	P	a-	0.4857	1.9663	0.9674	318.8	191.5	-	10S	143E
-1044	Feb 01	04:46:30	26084	711	-37649	7	N	-a	1.4872	0.1272	-0.8688	98.5	-	-	21N	42E
-1044	Mar 01	16:09:38	26082	711	-37648	45	N	a-	-1.2174	0.6322	-0.3835	216.3	-	-	10N	130W
-1044	Aug 26	06:23:04	26074	710	-37642	50	N	t-	1.2630	0.5669	-0.4851	214.5	-	-	13S	13E
-1043	Jan 20	19:30:02	26066	709	-37637	17	P	-a	0.7643	1.4380	0.4728	278.0	140.1	-	23N	180W
-1043	Jul 16	16:03:39	26057	708	-37631	22	P	-t	-0.8744	1.2907	0.2170	311.9	111.6	-	24S	132W
-1042	Jan 10	11:22:52	26049	707	-37625	27	T+	-p	0.0893	2.6834	1.7047	323.9	212.1	97.2	23N	59W
-1042	Jul 05	18:49:38	26040	706	-37619	32	T-	pp	-0.0979	2.6956	1.6613	356.5	227.6	102.0	24S	175W
-1042	Dec 30	23:43:57	26031	705	-37613	37	P	a-	-0.6269	1.7230	0.6929	316.8	173.3	-	23N	114E
-1041	Jun 25	04:45:01	26022	704	-37607	42	P	a-	0.6652	1.6262	0.6486	300.4	165.4	-	23S	36E
-1041	Dec 20	04:59:38	26013	703	-37601	47	N	t-	-1.3715	0.3852	-0.7014	184.6	-	-	22N	34E
-1040	May 15	13:57:27	26006	702	-37596	14	N	a-	-1.1173	0.7777	-0.1624	218.6	-	-	17S	103W
-1040	Jun 13	20:27:16	26004	702	-37595	52	N	a-	1.3660	0.3226	-0.6199	147.5	-	-	21S	160E
-1040	Nov 08	09:19:26	25997	701	-37590	19	Nx	-t	0.9948	1.0800	-0.0139	290.6	-	-	15N	34W
-1039	May 05	06:09:27	25988	700	-37584	24	T	-a	-0.3984	2.1118	1.1420	318.6	200.0	55.3	13S	14E
-1039	Oct 28	13:26:54	25979	699	-37578	29	T+	-p	0.2699	2.3833	1.3425	344.5	215.0	82.1	10N	96W
-1038	Apr 24	17:03:49	25970	698	-37572	34	T	t-	0.3816	2.1703	1.1454	343.0	210.4	58.4	9S	148W
-1038	Oct 18	00:51:51	25962	697	-37566	39	T	a-	-0.4278	2.0662	1.0797	314.2	193.9	41.6	6N	93E
-1037	Apr 13	20:42:58	25953	696	-37560	44	N	t-	1.1744	0.7375	-0.3306	248.9	-	-	4S	158E
-1037	Oct 07	16:23:29	25944	695	-37554	49	N	a-	-1.0826	0.8548	-0.1121	228.4	-	-	1N	139W
-1036	Mar 03	06:26:40	25937	694	-37549	16	P	-t	-0.9527	1.1375	0.0829	288.8	68.5	-	10N	15E
-1036	Aug 27	19:57:47	25928	693	-37543	21	P	-a	0.9059	1.2019	0.1899	278.6	97.6	-	13S	169E
-1035	Feb 20	14:17:40	25919	692	-37537	26	T-	pp	-0.1770	2.5344	1.5321	336.1	216.3	93.8	14N	102W

-1035	Aug 17	02:40:04	25910	691	-37531	31	T+	pp	0.1903	2.5405	1.4776	363.7	227.3	95.0	17S	69E
-1034	Feb 10	04:22:12	25901	690	-37525	36	P	a-	0.5365	1.8554	0.8914	301.1	180.4	-	18N	47E
-1034	Aug 06	03:25:20	25893	689	-37519	41	P	t-	-0.5480	1.8936	0.8120	353.1	196.6	-	20S	57E
-1033	Jan 01	10:09:28	25885	688	-37514	8	N	a-	-1.4502	0.1931	-0.7989	119.1	-	-	22N	43W
-1033	Jan 30	20:38:10	25884	688	-37513	46	N	a-	1.2181	0.6063	-0.3607	198.4	-	-	21N	163E
-1033	Jun 26	16:22:10	25876	687	-37508	13	N	-t	1.4848	0.1423	-0.8747	108.9	-	-	22S	139W
-1033	Jul 26	04:52:10	25875	687	-37507	51	N	t-	-1.2625	0.5669	-0.4835	216.1	-	-	23S	35E
-1033	Dec 21	20:41:39	25868	686	-37502	18	P	a-	-0.8213	1.3757	0.3266	301.4	128.1	-	23N	158E
-1032	Jun 15	04:15:38	25859	685	-37496	23	P	a-	0.6688	1.6123	0.6489	294.7	163.3	-	22S	42E
-1032	Dec 09	23:50:27	25850	684	-37490	28	T-	pp	-0.1443	2.6428	1.5444	374.1	231.2	98.8	22N	109E
-1031	Jun 04	20:51:51	25841	683	-37484	33	T-	pp	-0.0844	2.6726	1.7330	316.5	210.9	98.0	21S	152E
-1031	Nov 28	22:48:11	25832	682	-37478	38	P	t-	0.5319	1.9333	0.8315	355.1	197.1	-	20N	124E
-1030	May 25	13:39:12	25824	681	-37472	43	P	a-	-0.8391	1.2979	0.3384	273.4	123.4	-	20S	100W
-1030	Nov 18	01:15:27	25815	680	-37466	48	N	a-	1.1830	0.7159	-0.3407	234.8	-	-	18N	86E
-1029	Apr 15	14:18:25	25807	679	-37461	15	N	-t	1.0423	0.9664	-0.0749	269.6	-	-	5S	106W
-1029	Oct 08	23:46:34	25799	679	-37455	20	P	-a	-0.9258	1.1468	0.1717	258.9	88.8	-	1N	110E
-1028	Apr 03	16:21:08	25790	678	-37449	25	T	pt	0.3023	2.3409	1.2666	368.4	224.9	78.5	1S	136W
-1028	Sep 27	15:42:23	25781	677	-37443	30	T-	-p	-0.2491	2.3850	1.4164	316.6	205.0	84.0	2S	129W
-1027	Mar 23	17:11:22	25772	676	-37437	35	T	t-	-0.4480	2.0656	1.0068	351.8	207.6	13.4	3N	148W
-1027	Sep 17	05:49:21	25763	675	-37431	40	T	p-	0.4593	2.0177	1.0127	322.1	194.8	17.3	6S	19E
-1026	Feb 11	12:51:36	25756	674	-37426	7	N	-a	1.5124	0.0780	-0.9120	77.1	-	-	19N	80W
-1026	Mar 12	23:39:17	25755	674	-37425	45	N	a-	-1.1631	0.7285	-0.2806	228.9	-	-	6N	116E
-1026	Sep 06	13:55:27	25746	673	-37419	50	N	t-	1.2288	0.6329	-0.4256	226.2	-	-	9S	102W
-1025	Feb 01	03:55:36	25739	672	-37414	17	P	-a	0.7870	1.3947	0.4329	274.8	134.8	-	21N	53E
-1025	Jul 27	22:46:24	25730	671	-37408	22	P	-t	-0.9420	1.1677	0.0922	300.6	74.0	-	23S	126E
-1024	Jan 21	19:52:26	25721	670	-37402	27	T+	-p	0.1067	2.6512	1.6731	324.2	212.2	96.6	22N	173E
-1024	Jul 16	01:47:00	25712	669	-37396	32	T-	pp	-0.1678	2.5670	1.5336	353.9	224.8	96.9	23S	80E
-1023	Jan 10	08:03:03	25703	668	-37390	37	P	a-	-0.6174	1.7408	0.7099	318.8	175.4	-	23N	11W
-1023	Jul 05	12:02:41	25695	667	-37384	42	P	a-	0.5931	1.7579	0.7815	306.2	177.0	-	23S	75W
-1023	Dec 30	13:01:05	25686	666	-37378	47	N	t-	-1.3652	0.3968	-0.6900	187.5	-	-	23N	87W
-1022	May 26	21:20:26	25679	665	-37373	14	N	-a	-1.1915	0.6418	-0.2988	201.5	-	-	20S	144E
-1022	Jun 25	03:54:42	25677	665	-37372	52	N	a-	1.2956	0.4521	-0.4909	172.3	-	-	22S	47E
-1022	Nov 19	17:27:26	25670	664	-37367	19	Nx	-t	0.9955	1.0781	-0.0143	289.7	-	-	18N	158W
-1021	May 16	13:20:48	25661	663	-37361	24	P	-a	-0.4758	1.9710	0.9988	315.0	192.7	-	17S	95W
-1021	Nov 08	21:55:49	25652	662	-37355	29	T+	-p	0.2705	2.3812	1.3423	343.2	214.4	81.9	14N	135E
-1020	May 04	23:50:57	25643	661	-37349	34	T	pp	0.3036	2.3145	1.2875	348.4	217.5	78.5	13S	108E
-1020	Oct 28	09:34:49	25635	660	-37343	39	T	a-	-0.4223	2.0761	1.0899	313.9	194.0	43.9	10N	39W
-1019	Apr 24	03:10:47	25626	659	-37337	44	N	t-	1.0959	0.8812	-0.1862	268.5	-	-	8S	59E
-1019	Oct 18	01:06:04	25617	658	-37331	49	N	a-	-1.0744	0.8712	-0.0982	230.4	-	-	5N	88E
-1018	Mar 14	13:35:56	25610	657	-37326	16	Nx	-t	-1.0047	1.0388	-0.0095	277.7	-	-	6N	94W

-1018	Sep 08	03:49:33	25601	656	-37320	21	P	-a	0.9421	1.1387	0.1202	274.4	78.6	-	9S	49E
-1017	Mar 03	22:02:59	25592	655	-37314	26	T-	-p	-0.2191	2.4538	1.4579	333.2	214.0	89.6	10N	140E
-1017	Aug 28	09:56:42	25584	654	-37308	31	T+	-p	0.2372	2.4576	1.3886	363.8	225.3	89.0	14S	42W
-1016	Feb 21	12:32:14	25575	653	-37302	36	P	a-	0.5016	1.9173	0.9575	302.9	184.7	-	15N	77W
-1016	Aug 16	10:21:39	25566	653	-37296	41	P	t-	-0.4910	1.9998	0.9151	358.1	204.8	-	18S	48W
-1015	Jan 11	18:42:33	25559	652	-37291	8	N	-a	-1.4648	0.1665	-0.8257	111.2	-	-	22N	171W
-1015	Feb 10	04:56:45	25557	652	-37290	46	N	a-	1.1933	0.6511	-0.3144	204.9	-	-	19N	37E
-1015	Jul 06	23:21:28	25550	651	-37285	13	Ne	-t	1.5501	0.0216	-0.9938	42.7	-	-	22S	115E
-1015	Aug 05	11:56:03	25549	651	-37284	51	N	t-	-1.1995	0.6826	-0.3680	233.8	-	-	21S	72W
-1014	Jan 01	04:58:56	25541	650	-37279	18	P	-a	-0.8318	1.3570	0.3068	301.0	124.9	-	23N	33E
-1014	Jun 26	11:36:08	25533	649	-37273	23	P	-a	0.7382	1.4844	0.5223	286.3	149.1	-	23S	69W
-1014	Dec 21	07:50:11	25524	648	-37267	28	T-	pp	-0.1523	2.6282	1.5298	374.4	231.3	98.2	23N	11W
-1013	Jun 16	04:18:34	25515	647	-37261	33	T-	pp	-0.0113	2.8071	1.8667	317.0	211.6	99.5	23S	40E
-1013	Dec 10	06:51:15	25506	646	-37255	38	P	t-	0.5271	1.9411	0.8415	354.8	197.7	-	23N	2E
-1012	Jun 04	20:54:36	25498	645	-37249	43	P	a-	-0.7663	1.4330	0.4705	283.8	143.0	-	22S	150E
-1012	Nov 28	09:40:10	25489	644	-37243	48	N	a-	1.1788	0.7221	-0.3314	234.9	-	-	21N	41W
-1011	Apr 25	21:00:55	25482	643	-37238	15	N	-t	1.1230	0.8190	-0.2236	252.9	-	-	9S	151E
-1011	Oct 19	08:28:24	25473	642	-37232	20	P	-a	-0.9329	1.1339	0.1583	257.4	85.3	-	6N	23W
-1010	Apr 14	22:50:20	25464	641	-37226	25	T	-t	0.3823	2.1929	1.1206	364.1	218.0	55.6	5S	124E
-1010	Oct 09	00:18:24	25455	640	-37220	30	T-	-p	-0.2633	2.3608	1.3886	316.8	204.4	82.0	2N	100E
-1009	Apr 03	23:59:53	25447	639	-37214	35	T	t-	-0.3769	2.1934	1.1400	354.8	214.8	58.5	2S	107E
-1009	Sep 28	14:02:37	25438	638	-37208	40	T	p-	0.4397	2.0566	1.0457	325.0	197.2	32.6	2S	106W
-1008	Feb 22	20:50:01	25431	637	-37203	7	Ne	-a	1.5435	0.0179	-0.9663	37.0	-	-	15N	159E
-1008	Mar 23	07:03:21	25429	637	-37202	45	N	a-	-1.1031	0.8353	-0.1675	241.2	-	-	2N	2E
-1008	Sep 16	21:35:25	25420	636	-37196	50	N	t-	1.2012	0.6866	-0.3781	235.4	-	-	5S	141E
-1007	Feb 11	12:14:35	25413	636	-37191	17	P	-a	0.8153	1.3410	0.3826	270.8	127.7	-	18N	73W
-1007	Aug 07	05:36:06	25404	635	-37185	22	Nx	-t	-1.0041	1.0548	-0.0227	289.0	-	-	20S	23E
-1006	Feb 01	04:15:21	25396	634	-37179	27	T+	-p	0.1292	2.6094	1.6322	324.5	212.1	95.7	20N	47E
-1006	Jul 27	08:52:22	25387	633	-37173	32	T-	pp	-0.2320	2.4488	1.4161	350.8	221.1	89.6	22S	27W
-1005	Jan 21	16:14:08	25378	632	-37167	37	P	a-	-0.6020	1.7693	0.7379	321.3	178.6	-	21N	134W
-1005	Jul 16	19:28:16	25369	631	-37161	42	P	a-	0.5265	1.8795	0.9040	310.7	185.8	-	23S	173E
-1004	Jan 10	20:56:11	25361	630	-37155	47	N	t-	-1.3539	0.4173	-0.6691	192.3	-	-	22N	154E
-1004	Jun 06	04:44:39	25353	629	-37150	14	N	-a	-1.2644	0.5086	-0.4332	181.9	-	-	23S	32E
-1004	Jul 05	11:26:47	25352	629	-37149	52	N	a-	1.2286	0.5755	-0.3685	192.0	-	-	23S	67W
-1004	Nov 30	01:36:02	25345	628	-37144	19	Nx	-t	0.9961	1.0758	-0.0145	288.8	-	-	21N	80E
-1003	May 26	20:30:31	25336	627	-37138	24	P	-a	-0.5538	1.8293	0.8541	310.4	183.3	-	20S	156E
-1003	Nov 19	06:27:00	25327	626	-37132	29	T+	-p	0.2698	2.3812	1.3449	341.9	213.9	81.9	18N	6E
-1002	May 16	06:33:23	25319	625	-37126	34	T+	pp	0.2226	2.4646	1.4348	353.0	223.1	91.6	16S	5E
-1002	Nov 08	18:21:52	25310	624	-37120	39	T	a-	-0.4198	2.0802	1.0950	313.3	193.9	45.0	14N	173W
-1001	May 05	09:34:15	25301	623	-37114	44	Nx	t-	1.0138	1.0318	-0.0354	286.3	-	-	12S	39W

-1001 Oct 29	09:52:49	25292	622	-37108	49	N	a-	-1.0697	0.8810	-0.0905	231.6	-	-	9N	45W
-1000 Mar 24	20:38:46	25285	622	-37103	16	N	-t	-1.0626	0.9296	-0.1126	264.5	-	-	1N	158E
-1000 Sep 18	11:49:21	25276	622	-37097	21	P	-a	0.9710	1.0889	0.0639	271.1	58.0	-	5S	73W

1ST MILLENNIUM BCE

In the 1st millennium BCE the total number of lunar eclipses was 2 392 lunar eclipses: 858 penumbral lunar eclipses, 812 partial lunar eclipses, 722 total lunar eclipses (404 central total lunar eclipses, 318 non-central total lunar eclipses).

10TH CENTURY BCE

In the 10th century BCE the total number of lunar eclipses was 228 lunar eclipses: 80 penumbral lunar eclipses, 61 partial lunar eclipses, 87 total lunar eclipses (28 central total lunar eclipses, 59 non-central total lunar eclipses).

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG
GREATEST			S						m	m	m	m	m	°	°
ECLIPSE															

-0999 Mar 14 05:40:09 25268 622 -37091 26 T- -p -0.2690 2.3591 1.3694 329.9 210.9 83.1 6N 24E

-0999	Sep 07	17:21:59	25259	621	-37085	31	T	-p	0.2763	2.3887	1.3138	363.8	223.1	82.4	10S	155W
-0998	Mar 03	20:33:11	25250	621	-37079	36	T	a-	0.4587	1.9940	1.0384	305.0	189.4	28.9	11N	161E
-0998	Aug 27	17:28:32	25242	621	-37073	41	T	t-	-0.4423	2.0907	1.0029	361.9	210.7	9.0	14S	156W
-0997	Jan 23	03:07:12	25234	621	-37068	8	N	a-	-1.4857	0.1280	-0.8641	98.1	-	-	20N	62E
-0997	Feb 21	13:05:29	25233	621	-37067	46	N	a-	1.1609	0.7098	-0.2542	213.0	-	-	15N	86W
-0997	Aug 16	19:11:22	25224	621	-37061	51	N	t-	-1.1446	0.7835	-0.2673	247.3	-	-	18S	178E
-0996	Jan 12	13:10:04	25217	620	-37056	18	P	-a	-0.8465	1.3305	0.2797	299.9	120.1	-	22N	90W
-0996	Jul 06	19:01:18	25208	620	-37050	23	P	-a	0.8043	1.3627	0.4013	277.5	132.8	-	23S	179E
-0996	Dec 31	15:46:34	25200	620	-37044	28	T-	pp	-0.1627	2.6087	1.5110	374.6	231.2	97.5	24N	130W
-0995	Jun 26	11:46:58	25191	620	-37038	33	T+	pp	0.0603	2.7180	1.7761	317.0	211.2	98.7	24S	73W
-0995	Dec 20	14:52:46	25182	620	-37032	38	P	t-	0.5200	1.9526	0.8560	354.5	198.6	-	24N	118W
-0994	Jun 16	04:09:40	25174	620	-37026	43	P	a-	-0.6935	1.5683	0.6022	293.2	158.9	-	23S	40E
-0994	Dec 09	18:05:52	25165	619	-37020	48	N	a-	1.1744	0.7284	-0.3214	234.8	-	-	23N	168W
-0993	May 07	03:38:52	25158	619	-37015	15	N	-t	1.2064	0.6668	-0.3775	232.4	-	-	12S	49E
-0993	Jun 05	15:41:00	25156	619	-37014	53	Nb	t-	-1.5154	0.0866	-0.9315	85.7	-	-	23S	133W
-0993	Oct 30	17:14:26	25149	619	-37009	20	P	-a	-0.9374	1.1259	0.1500	256.4	83.0	-	10N	156W
-0992	Apr 25	05:16:21	25140	619	-37003	25	P	-t	0.4650	2.0403	0.9697	358.4	208.8	-	9S	25E
-0992	Oct 19	08:59:17	25132	619	-36997	30	T	-p	-0.2734	2.3439	1.3685	317.1	203.9	80.5	7N	32W
-0991	Apr 14	06:43:55	25123	618	-36991	35	T	t-	-0.3009	2.3302	1.2819	357.1	220.8	78.9	6S	4E
-0991	Oct 08	22:22:01	25114	618	-36985	40	T	p-	0.4257	2.0852	1.0686	327.4	199.0	39.7	3N	127E
-0990	Apr 03	14:21:33	25106	618	-36979	45	N	a-	-1.0373	0.9532	-0.0436	253.3	-	-	2S	110W
-0990	Sep 28	05:22:59	25097	618	-36973	50	N	t-	1.1801	0.7283	-0.3421	242.4	-	-	1S	22E
-0989	Feb 22	20:24:06	25090	618	-36968	17	P	-a	0.8520	1.2720	0.3169	265.6	117.3	-	14N	164E
-0989	Aug 18	12:37:33	25081	618	-36962	22	N	-t	-1.0571	0.9584	-0.1211	278.0	-	-	18S	84W
-0988	Feb 12	12:28:59	25072	617	-36956	27	T+	-p	0.1594	2.5537	1.5773	324.5	211.7	93.9	17N	78W
-0988	Aug 06	16:07:25	25064	617	-36950	32	T	-p	-0.2895	2.3431	1.3107	347.4	216.9	80.3	20S	137W
-0987	Feb 01	00:15:55	25055	617	-36944	37	P	a-	-0.5795	1.8105	0.7790	324.4	182.8	-	19N	105E
-0987	Jul 27	03:01:09	25046	617	-36938	42	T	a-	0.4649	1.9925	1.0172	314.1	192.6	19.9	21S	59E
-0986	Jan 21	04:41:39	25038	617	-36932	47	N	t-	-1.3354	0.4508	-0.6346	199.5	-	-	21N	37E
-0986	Jun 17	12:09:05	25030	616	-36927	14	N	-a	-1.3370	0.3765	-0.5673	158.7	-	-	24S	80W
-0986	Jul 16	19:04:00	25029	616	-36926	52	N	a-	1.1655	0.6920	-0.2536	208.1	-	-	22S	178E
-0986	Dec 11	09:45:08	25022	616	-36921	19	Nx	-t	0.9972	1.0723	-0.0149	287.6	-	-	23N	43W
-0985	Jun 07	03:38:43	25013	616	-36915	24	P	-a	-0.6321	1.6874	0.7086	304.8	171.7	-	22S	47E
-0985	Nov 30	15:00:14	25004	616	-36909	29	T+	-p	0.2684	2.3821	1.3490	340.6	213.4	82.1	21N	123W
-0984	May 26	13:13:01	24996	616	-36903	34	T+	pp	0.1400	2.6177	1.5848	356.7	227.2	99.8	19S	96W
-0984	Nov 19	03:12:29	24987	616	-36897	39	T	a-	-0.4198	2.0797	1.0956	312.7	193.6	45.1	17N	54E
-0983	May 15	15:53:02	24978	615	-36891	44	P	t-	0.9276	1.1899	0.1227	302.6	85.1	-	15S	136W
-0983	Nov 08	18:44:15	24970	615	-36885	49	N	a-	-1.0690	0.8831	-0.0902	232.1	-	-	13N	179W
-0982	Apr 05	03:36:17	24963	615	-36880	16	N	-t	-1.1257	0.8109	-0.2254	248.9	-	-	3S	51E
-0982	Sep 29	19:55:48	24954	615	-36874	21	P	-a	0.9937	1.0504	0.0193	268.6	32.2	-	0S	164E

-0981	Mar 25	13:12:16	24945	615	-36868	26	T	-p	-0.3241	2.2551	1.2713	326.0	206.8	73.6	2N	92W
-0981	Sep 19	00:55:30	24937	614	-36862	31	T	-p	0.3082	2.3330	1.2526	363.8	221.1	75.6	5S	89E
-0980	Mar 14	04:28:38	24928	614	-36856	36	T	a-	0.4110	2.0796	1.1277	307.3	194.0	51.4	7N	40E
-0980	Sep 07	00:44:08	24919	614	-36850	41	T	t-	-0.4004	2.1691	1.0784	364.8	215.2	45.2	10S	93E
-0979	Feb 02	11:24:15	24912	614	-36845	8	N	-a	-1.5122	0.0792	-0.9126	77.7	-	-	18N	63W
-0979	Mar 03	21:06:44	24911	614	-36844	46	N	a-	1.1229	0.7788	-0.1839	221.8	-	-	11N	152E
-0979	Aug 27	02:37:07	24902	614	-36838	51	N	h-	-1.0971	0.8707	-0.1804	257.7	-	-	15S	65E
-0978	Jan 22	21:11:08	24895	614	-36833	18	P	-a	-0.8685	1.2901	0.2391	297.5	112.0	-	21N	150E
-0978	Jul 18	02:33:56	24886	613	-36827	23	P	-a	0.8648	1.2516	0.2903	268.7	114.5	-	22S	65E
-0977	Jan 11	23:34:15	24878	613	-36821	28	T-	pp	-0.1796	2.5769	1.4806	374.4	230.8	96.0	23N	113E
-0977	Jul 07	19:20:38	24869	613	-36815	33	T+	-p	0.1275	2.5958	1.6518	316.4	209.9	95.8	24S	173E
-0977	Dec 31	22:48:49	24860	613	-36809	38	P	t-	0.5081	1.9725	0.8796	354.5	200.2	-	24N	123E
-0976	Jun 26	11:27:08	24852	613	-36803	43	P	a-	-0.6235	1.6989	0.7286	301.5	171.7	-	24S	70W
-0976	Dec 20	02:29:23	24843	612	-36797	48	N	a-	1.1675	0.7387	-0.3066	235.3	-	-	25N	66E
-0975	May 17	10:10:21	24836	612	-36792	15	N	-t	1.2937	0.5078	-0.5388	206.6	-	-	16S	51W
-0975	Jun 15	22:27:30	24834	612	-36791	53	N	t-	-1.4419	0.2238	-0.7988	136.7	-	-	24S	124E
-0975	Nov 10	02:05:26	24827	612	-36786	20	P	-a	-0.9381	1.1244	0.1487	256.0	82.6	-	14N	70E
-0974	May 06	11:36:15	24819	612	-36780	25	P	-t	0.5522	1.8797	0.8104	351.2	196.5	-	13S	72W
-0974	Oct 30	17:45:39	24810	612	-36774	30	T	-p	-0.2786	2.3358	1.3575	317.6	203.8	79.6	11N	166W
-0973	Apr 25	13:23:40	24801	612	-36768	35	T-	pp	-0.2206	2.4751	1.4316	358.7	225.3	92.1	10S	98W
-0973	Oct 20	06:47:49	24793	611	-36762	40	T	p-	0.4180	2.1019	1.0802	329.4	200.2	42.9	7N	1W
-0972	Apr 13	21:35:40	24784	611	-36756	45	P	a-	-0.9669	1.0795	0.0883	264.8	67.1	-	6S	139E
-0972	Oct 08	13:16:59	24775	611	-36750	50	N	t-	1.1646	0.7594	-0.3165	247.7	-	-	3N	98W
-0971	Mar 05	04:27:10	24768	611	-36745	17	P	-a	0.8942	1.1931	0.2412	259.3	103.4	-	11N	41E
-0971	Aug 28	19:48:02	24760	611	-36739	22	N	-t	-1.1033	0.8748	-0.2068	267.7	-	-	14S	167E
-0970	Feb 22	20:33:31	24751	611	-36733	27	T+	-p	0.1966	2.4849	1.5093	324.3	210.8	91.0	14N	159E
-0970	Aug 17	23:32:35	24742	610	-36727	32	T	-p	-0.3396	2.2512	1.2189	343.9	212.5	69.4	17S	111E
-0969	Feb 12	08:08:28	24734	610	-36721	37	P	h-	-0.5502	1.8645	0.8328	328.0	187.8	-	16N	14W
-0969	Aug 07	10:42:35	24725	610	-36715	42	T	a-	0.4098	2.0936	1.1183	316.7	197.6	50.6	19S	57W
-0968	Feb 01	12:18:46	24716	610	-36709	47	N	t-	-1.3105	0.4959	-0.5882	208.7	-	-	19N	78W
-0968	Jun 27	19:37:19	24709	610	-36704	14	N	-a	-1.4062	0.2508	-0.6955	131.3	-	-	25S	167E
-0968	Jul 27	02:47:57	24708	610	-36703	52	N	a-	1.1078	0.7989	-0.1488	221.2	-	-	21S	61E
-0968	Dec 21	17:51:25	24701	609	-36698	19	Nx	-t	1.0010	1.0635	-0.0200	285.8	-	-	24N	164W
-0967	Jun 17	10:46:41	24692	609	-36692	24	P	-a	-0.7097	1.5472	0.5641	298.2	157.3	-	24S	61W
-0967	Dec 10	23:32:47	24684	609	-36686	29	T+	-p	0.2684	2.3801	1.3510	339.2	212.9	82.1	23N	109E
-0966	Jun 06	19:51:29	24675	609	-36680	34	T+	pp	0.0571	2.7716	1.7350	359.4	229.7	104.2	21S	163E
-0966	Nov 30	12:02:47	24666	609	-36674	39	T	p-	-0.4190	2.0802	1.0980	312.0	193.5	45.5	20N	80W
-0965	May 26	22:11:26	24658	609	-36668	44	P	t-	0.8407	1.3496	0.2819	316.8	126.1	-	18S	128E
-0965	Nov 20	03:37:19	24649	608	-36662	49	N	a-	-1.0695	0.8827	-0.0918	232.3	-	-	17N	46E
-0964	Apr 15	10:29:09	24642	608	-36657	16	N	-t	-1.1929	0.6847	-0.3461	230.6	-	-	7S	55W

-0964	Oct 10	04:08:50	24633	608	-36651	21	Nx	-a	1.0103	1.0229	-0.0140	267.0	-	-	-	4N	38E
-0963	Apr 04	20:38:01	24625	608	-36645	26	T	-p	-0.3853	2.1400	1.1617	321.3	201.5	58.8	2S	154E	
-0963	Sep 29	08:37:42	24616	608	-36639	31	T	-p	0.3322	2.2917	1.2060	364.0	219.4	69.5	1S	28W	
-0962	Mar 25	12:14:34	24608	607	-36633	36	T	p-	0.3551	2.1804	1.2320	309.7	198.6	67.0	2N	79W	
-0962	Sep 18	08:11:06	24599	607	-36627	41	T	t-	-0.3675	2.2307	1.1374	366.8	218.3	58.6	6S	21W	
-0961	Feb 13	19:31:48	24592	607	-36622	8	Ne	-a	-1.5457	0.0177	-0.9739	37.0	-	-	-	15N	174E
-0961	Mar 15	04:58:46	24590	607	-36621	46	N	a-	1.0780	0.8607	-0.1010	231.7	-	-	-	7N	31E
-0961	Sep 07	10:13:22	24582	607	-36615	51	N	h-	-1.0573	0.9440	-0.1074	265.5	-	-	-	11S	50W
-0960	Feb 03	05:03:55	24575	607	-36610	18	P	-h	-0.8965	1.2388	0.1878	294.1	100.3	-	-	18N	31E
-0960	Jul 28	10:13:07	24566	607	-36604	23	P	-a	0.9204	1.1498	0.1882	260.0	93.3	-	-	21S	51W
-0959	Jan 22	07:15:26	24557	606	-36598	28	T-	pp	-0.2018	2.5353	1.4409	373.9	230.0	93.6	21N	3W	
-0959	Jul 18	02:57:33	24549	606	-36592	33	T+	-p	0.1918	2.4791	1.5324	315.5	207.9	91.1	23S	58E	
-0958	Jan 11	06:41:01	24540	606	-36586	38	P	t-	0.4925	1.9990	0.9104	354.6	202.2	-	-	24N	5E
-0958	Jul 07	18:47:10	24532	606	-36580	43	P	a-	-0.5563	1.8247	0.8495	308.7	182.2	-	-	24S	180E
-0958	Dec 31	10:49:33	24523	606	-36574	48	N	a-	1.1571	0.7552	-0.2850	236.5	-	-	-	25N	59W
-0957	May 28	16:41:05	24516	605	-36569	15	N	-t	1.3802	0.3503	-0.6989	174.8	-	-	-	18S	150W
-0957	Jun 27	05:16:56	24515	605	-36568	53	N	t-	-1.3711	0.3561	-0.6714	171.1	-	-	-	25S	21E
-0957	Nov 21	10:58:17	24507	605	-36563	20	P	-a	-0.9376	1.1251	0.1500	255.8	82.8	-	-	17N	65W
-0956	May 16	17:55:15	24499	605	-36557	25	P	-t	0.6401	1.7178	0.6496	342.4	180.8	-	-	16S	169W
-0956	Nov 10	02:34:22	24490	605	-36551	30	T	-p	-0.2818	2.3313	1.3505	318.2	203.8	79.1	15N	61E	
-0955	May 05	20:02:11	24482	605	-36545	35	T-	pp	-0.1384	2.6238	1.5847	359.3	228.2	100.2	13S	160E	
-0955	Oct 30	15:17:17	24473	605	-36539	40	T	p-	0.4136	2.1123	1.0859	331.1	201.0	44.4	11N	130W	
-0954	Apr 25	04:45:57	24465	604	-36533	45	P	a-	-0.8920	1.2143	0.2282	275.4	105.5	-	-	10S	29E
-0954	Oct 19	21:17:16	24456	604	-36527	50	N	t-	1.1545	0.7804	-0.3004	251.5	-	-	-	8N	140E
-0953	Mar 16	12:21:48	24449	604	-36522	17	P	-a	0.9438	1.1006	0.1515	251.5	83.0	-	-	6N	80W
-0953	Sep 09	03:09:22	24440	604	-36516	22	N	-t	-1.1411	0.8063	-0.2772	258.5	-	-	-	10S	55E
-0952	Mar 05	04:28:42	24432	604	-36510	27	T+	-p	0.2414	2.4025	1.4274	323.8	209.3	86.3	10N	39E	
-0952	Aug 28	07:08:50	24423	603	-36504	32	T	-p	-0.3816	2.1740	1.1418	340.6	208.1	57.1	14S	5W	
-0951	Feb 22	15:49:29	24415	603	-36498	37	P	t-	-0.5121	1.9343	0.9026	332.1	193.8	-	-	13N	131W
-0951	Aug 17	18:32:55	24406	603	-36492	42	T	a-	0.3613	2.1829	1.2071	318.5	201.3	64.9	16S	176W	
-0950	Feb 11	19:45:00	24398	603	-36486	47	N	t-	-1.2771	0.5563	-0.5261	220.1	-	-	-	16N	170E
-0950	Jul 09	03:08:53	24390	603	-36481	14	N	-a	-1.4724	0.1308	-0.8186	96.1	-	-	-	25S	54E
-0950	Aug 07	10:39:13	24389	603	-36480	52	N	a-	1.0560	0.8953	-0.0550	231.9	-	-	-	18S	58W
-0949	Jan 02	01:53:52	24382	603	-36475	19	Nx	-t	1.0087	1.0471	-0.0319	283.1	-	-	-	25N	75E
-0949	Jun 28	17:56:46	24373	602	-36469	24	P	-a	-0.7847	1.4121	0.4242	290.8	139.8	-	-	24S	169W
-0949	Dec 22	08:04:52	24365	602	-36463	29	T+	-p	0.2700	2.3750	1.3503	337.7	212.3	81.8	24N	19W	
-0948	Jun 17	02:29:01	24356	602	-36457	34	T-	pp	-0.0257	2.8314	1.7906	361.2	230.5	105.0	23S	62E	
-0948	Dec 10	20:53:47	24348	602	-36451	39	T	p-	-0.4184	2.0802	1.1002	311.4	193.3	46.0	22N	147E	
-0947	Jun 06	04:29:01	24339	602	-36445	44	P	t-	0.7526	1.5117	0.4431	329.3	154.4	-	-	21S	32E
-0947	Nov 30	12:31:21	24331	601	-36439	49	N	a-	-1.0714	0.8797	-0.0957	232.2	-	-	-	19N	88W

-0946	Apr 26	17:18:42	24323	601	-36434	16	N	-t	-1.2635	0.5526	-0.4730	208.9	-	-	11S	159W
-0946	May 26	05:47:04	24322	601	-36433	54	N	t-	1.4861	0.1556	-0.8927	118.4	-	-	18S	12E
-0946	Oct 21	12:27:17	24315	601	-36428	21	Nx	-a	1.0216	1.0048	-0.0374	266.3	-	-	8N	88W
-0945	Apr 16	04:00:42	24306	601	-36422	26	T	-a	-0.4498	2.0191	1.0459	316.0	195.0	32.4	7S	41E
-0945	Oct 10	16:25:14	24298	601	-36416	31	T	-p	0.3512	2.2592	1.1688	364.2	218.0	63.8	3N	147W
-0944	Apr 04	19:56:30	24289	601	-36410	36	T	p-	0.2956	2.2880	1.3426	311.9	202.6	78.5	2S	163E
-0944	Sep 28	15:46:29	24281	600	-36404	41	T	p-	-0.3412	2.2801	1.1846	368.1	220.4	66.8	2S	137W
-0943	Mar 25	12:42:18	24272	600	-36398	46	N	a-	1.0266	0.9547	-0.0064	242.1	-	-	3N	87W
-0943	Sep 17	18:00:02	24264	600	-36392	51	Nx	h-	-1.0249	1.0035	-0.0481	271.3	-	-	7S	169W
-0942	Feb 13	12:45:12	24257	600	-36387	18	P	-h	-0.9330	1.1717	0.1209	289.0	81.5	-	15N	86W
-0942	Aug 08	18:01:27	24248	600	-36381	23	P	-a	0.9690	1.0611	0.0987	251.7	68.3	-	18S	169W
-0941	Feb 02	14:45:25	24239	600	-36375	28	T-	pp	-0.2328	2.4772	1.3853	372.9	228.6	89.7	19N	116W
-0941	Jul 29	10:42:22	24231	599	-36369	33	T+	-p	0.2493	2.3752	1.4254	314.2	205.3	84.9	21S	59W
-0940	Jan 22	14:25:50	24222	599	-36363	38	P	t-	0.4703	2.0372	0.9536	355.0	204.9	-	22N	112W
-0940	Jul 18	02:10:46	24214	599	-36357	43	P	a-	-0.4929	1.9437	0.9633	315.1	190.6	-	23S	68E
-0939	Jan 10	19:05:10	24205	599	-36351	48	N	a-	1.1423	0.7796	-0.2551	238.7	-	-	24N	177E
-0939	Jun 07	23:09:14	24198	599	-36346	15	N	-t	1.4673	0.1922	-0.8601	131.7	-	-	20S	112E
-0939	Jul 07	12:07:46	24197	599	-36345	53	N	t-	-1.3022	0.4853	-0.5477	198.2	-	-	25S	82W
-0939	Dec 01	19:52:05	24190	598	-36340	20	P	-a	-0.9369	1.1258	0.1518	255.5	83.2	-	20N	161E
-0938	May 28	00:11:48	24181	598	-36334	25	P	-t	0.7300	1.5527	0.4851	331.8	160.4	-	19S	96E
-0938	Nov 21	11:25:49	24173	598	-36328	30	T	-p	-0.2823	2.3313	1.3485	318.8	204.0	79.0	18N	73W
-0937	May 17	02:39:44	24164	598	-36322	35	T-	pp	-0.0541	2.7765	1.7412	358.9	229.5	104.2	17S	59E
-0937	Nov 10	23:49:31	24156	598	-36316	40	T	p-	0.4123	2.1169	1.0864	332.6	201.6	44.6	15N	100E
-0936	May 05	11:54:53	24147	598	-36310	45	P	a-	-0.8148	1.3535	0.3721	284.9	131.4	-	14S	80W
-0936	Oct 30	05:22:26	24139	597	-36304	50	N	t-	1.1488	0.7930	-0.2920	254.0	-	-	12N	17E
-0935	Mar 26	20:09:06	24132	597	-36299	17	P	-a	0.9994	0.9973	0.0506	242.0	48.7	-	2N	161E
-0935	Apr 25	03:11:53	24130	597	-36298	55	Nb	a-	-1.5055	0.0680	-0.8772	69.5	-	-	11S	51E
-0935	Sep 19	10:40:27	24123	597	-36293	22	N	-t	-1.1715	0.7513	-0.3338	250.5	-	-	6S	60W
-0934	Mar 16	12:15:15	24115	597	-36287	27	T	-p	0.2926	2.3084	1.3336	322.7	206.9	79.1	6N	80W
-0934	Sep 08	14:55:16	24106	597	-36281	32	T	-p	-0.4161	2.1107	1.0785	337.4	204.1	43.2	10S	123W
-0933	Mar 05	23:20:58	24098	596	-36275	37	P	t-	-0.4670	2.0172	0.9854	336.6	200.1	-	9N	114E
-0933	Aug 29	02:32:55	24089	596	-36269	42	T	p-	0.3202	2.2585	1.2822	319.8	203.8	73.6	13S	63E
-0932	Feb 23	03:02:25	24081	596	-36263	47	N	t-	-1.2367	0.6294	-0.4511	232.7	-	-	12N	59E
-0932	Jul 19	10:45:01	24073	596	-36258	14	Ne	-a	-1.5347	0.0184	-0.9347	36.5	-	-	24S	61W
-0932	Aug 17	18:37:22	24072	596	-36257	52	P	a-	1.0099	0.9815	0.0282	240.8	36.4	-	16S	179W
-0931	Jan 12	09:51:18	24065	596	-36252	19	Nx	-t	1.0211	1.0218	-0.0521	279.4	-	-	24N	44W
-0931	Jul 09	01:09:36	24057	596	-36246	24	P	-a	-0.8566	1.2828	0.2895	282.7	118.3	-	24S	82E
-0930	Jan 01	16:31:34	24048	595	-36240	29	T	-p	0.2767	2.3602	1.3404	335.9	211.5	80.8	24N	146W
-0930	Jun 28	09:08:50	24040	595	-36234	34	T-	pp	-0.1059	2.6866	1.6413	362.0	229.9	102.3	24S	38W
-0930	Dec 22	05:41:11	24031	595	-36228	39	T	p-	-0.4143	2.0864	1.1091	310.9	193.5	47.8	23N	15E

-0929	Jun 17	10:49:14	24023	595	-36222	44	P	t-	0.6664	1.6704	0.6005	339.9	175.3	-	22S	64W
-0929	Dec 11	21:22:52	24014	595	-36216	49	N	a-	-1.0715	0.8797	-0.0960	232.5	-	-	21N	139E
-0928	May 07	00:06:34	24007	594	-36211	16	N	t-	-1.3361	0.4171	-0.6038	183.0	-	-	15S	96E
-0928	Jun 05	12:18:06	24006	594	-36210	54	N	t-	1.4001	0.3121	-0.7338	164.8	-	-	20S	87W
-0928	Oct 31	20:50:03	23998	594	-36205	21	N	a-	1.0287	0.9941	-0.0529	266.2	-	-	13N	144E
-0927	Apr 26	11:17:47	23990	594	-36199	26	P	a-	-0.5198	1.8884	0.9197	309.7	186.5	-	11S	70W
-0927	Oct 21	00:20:29	23982	594	-36193	31	T	p-	0.3634	2.2389	1.1444	364.7	217.1	59.6	8N	92E
-0926	Apr 16	03:31:12	23973	594	-36187	36	T+	p-	0.2297	2.4077	1.4648	313.8	206.2	87.4	6S	47E
-0926	Oct 09	23:31:19	23965	594	-36181	41	T	p-	-0.3222	2.3158	1.2186	368.9	221.7	71.7	3N	105E
-0925	Apr 05	20:18:13	23956	593	-36175	46	P	a-	0.9693	1.0597	0.0988	252.8	68.7	-	1S	157E
-0925	Sep 29	01:57:19	23948	593	-36169	51	Nx	a-	-1.0000	1.0491	-0.0024	275.2	-	-	2S	70E
-0924	Feb 24	20:17:43	23941	593	-36164	18	P	t-	-0.9757	1.0932	0.0427	282.3	49.1	-	12N	160E
-0924	Aug 19	01:56:49	23932	593	-36158	23	P	a-	1.0123	0.9822	0.0187	243.8	30.0	-	15S	71E
-0923	Feb 12	22:08:04	23924	593	-36152	28	T-	p-	-0.2695	2.4085	1.3193	371.4	226.6	83.9	16N	132E
-0923	Aug 08	18:32:42	23915	592	-36146	33	T	p-	0.3018	2.2808	1.3273	312.9	202.3	77.1	19S	178W
-0922	Feb 01	22:03:27	23907	592	-36140	38	T	t-	0.4418	2.0868	1.0086	355.7	208.2	15.1	20N	133E
-0922	Jul 29	09:39:51	23898	592	-36134	43	T	a-	-0.4348	2.0531	1.0670	320.5	197.4	39.1	22S	45W
-0921	Jan 22	03:15:29	23890	592	-36128	48	N	a-	1.1227	0.8125	-0.2162	241.8	-	-	23N	55E
-0921	Jun 19	05:39:29	23883	592	-36123	15	Ne	t-	1.5515	0.0393	-1.0164	60.6	-	-	22S	13E
-0921	Jul 18	19:03:22	23881	592	-36122	53	N	t-	-1.2376	0.6067	-0.4319	220.1	-	-	24S	174E
-0921	Dec 13	04:43:49	23874	592	-36117	20	P	a-	-0.9381	1.1228	0.1502	255.0	82.7	-	22N	28E
-0920	Jun 07	06:31:07	23866	591	-36111	25	P	t-	0.8173	1.3924	0.3251	319.9	134.5	-	21S	0W
-0920	Dec 01	20:16:22	23857	591	-36105	30	T	p-	-0.2833	2.3302	1.3459	319.5	204.3	78.9	21N	154E
-0919	May 27	09:17:57	23849	591	-36099	35	T+	pp	0.0305	2.8180	1.7862	357.6	229.1	104.6	19S	42W
-0919	Nov 21	08:22:47	23840	591	-36093	40	T	p-	0.4126	2.1181	1.0840	334.0	202.0	44.1	19N	29W
-0918	May 16	19:03:12	23832	591	-36087	45	P	a-	-0.7363	1.4957	0.5181	293.3	151.2	-	17S	171E
-0918	Nov 10	13:29:45	23823	591	-36081	50	N	t-	1.1455	0.8007	-0.2876	255.8	-	-	16N	106W
-0917	Apr 07	03:49:44	23816	590	-36076	17	N	a-	1.0605	0.8842	-0.0606	230.6	-	-	2S	43E
-0917	May 06	10:38:38	23815	590	-36075	55	N	a-	-1.4347	0.1968	-0.7462	116.6	-	-	15S	63W
-0917	Sep 30	18:22:27	23808	590	-36070	22	N	t-	-1.1933	0.7120	-0.3742	244.5	-	-	2S	177W
-0916	Mar 26	19:52:47	23800	590	-36064	27	T	a-	0.3508	2.2017	1.2268	321.0	203.4	67.9	2N	163E
-0916	Sep 18	22:52:12	23791	590	-36058	32	T	p-	-0.4428	2.0616	1.0296	334.6	200.7	26.8	6S	116E
-0915	Mar 16	06:41:10	23783	590	-36052	37	T	t-	-0.4135	2.1154	1.0834	341.3	206.6	45.0	5N	2E
-0915	Sep 08	10:42:38	23774	589	-36046	42	T	p-	0.2865	2.3207	1.3435	320.5	205.5	79.3	9S	62W
-0914	Mar 05	10:07:27	23766	589	-36040	47	N	t-	-1.1866	0.7203	-0.3581	246.9	-	-	9N	49W
-0914	Aug 29	02:44:24	23757	589	-36034	52	P	a-	0.9710	1.0544	0.0978	247.8	67.2	-	12S	58E
-0913	Jan 23	17:42:42	23750	589	-36029	19	N	t-	1.0392	0.9857	-0.0825	274.4	-	-	22N	162W
-0913	Jul 20	08:25:51	23742	589	-36023	24	P	a-	-0.9245	1.1611	0.1621	273.9	90.4	-	24S	27W
-0912	Jan 13	00:54:45	23733	589	-36017	29	T	p-	0.2872	2.3383	1.3239	333.9	210.4	79.2	23N	88E
-0912	Jul 08	15:50:48	23725	588	-36011	34	T-	pp	-0.1834	2.5468	1.4965	361.9	227.7	96.3	24S	139W

-0911	Jan 01	14:25:46	23717	588	-36005	39	T	p-	-0.4078	2.0967	1.1226	310.6	194.0	50.4	23N	116W
-0911	Jun 27	17:11:04	23708	588	-35999	44	P	t-	0.5814	1.8273	0.7559	348.8	191.6	-	23S	160W
-0911	Dec 22	06:12:17	23700	588	-35993	49	N	a-	-1.0704	0.8817	-0.0939	233.0	-	-	22N	6E
-0910	May 18	06:54:27	23693	588	-35988	16	N	t-	-1.4092	0.2807	-0.7360	151.4	-	-	18S	7W
-0910	Jun 16	18:53:09	23691	588	-35987	54	N	t-	1.3160	0.4655	-0.5784	197.8	-	-	22S	174E
-0910	Nov 12	05:14:26	23684	587	-35982	21	N	-a	1.0337	0.9871	-0.0640	266.6	-	-	16N	17E
-0909	May 07	18:34:48	23676	587	-35976	26	P	-a	-0.5906	1.7566	0.7918	302.7	176.5	-	14S	178E
-0909	Nov 01	08:19:35	23667	587	-35970	31	T	-t	0.3721	2.2245	1.1267	365.1	216.5	56.2	12N	29W
-0908	Apr 26	11:02:45	23659	587	-35964	36	T+	p-	0.1611	2.5327	1.5915	315.4	209.0	93.8	10S	68W
-0908	Oct 20	07:22:48	23650	587	-35958	41	T	p-	-0.3083	2.3418	1.2435	369.3	222.5	74.9	7N	15W
-0907	Apr 16	03:47:27	23642	587	-35952	46	P	a-	0.9071	1.1742	0.2128	263.4	99.4	-	6S	42E
-0907	Oct 09	10:03:29	23634	586	-35946	51	P	a-	-0.9819	1.0822	0.0311	277.7	41.5	-	2N	54W
-0906	Mar 07	03:37:18	23627	586	-35941	18	N	-t	-1.0277	0.9976	-0.0526	273.2	-	-	8N	48E
-0906	Aug 30	10:02:25	23618	586	-35935	23	N	-a	1.0475	0.9183	-0.0466	237.0	-	-	12S	52W
-0905	Feb 24	05:19:17	23610	586	-35929	28	T	-t	-0.3149	2.3238	1.2375	369.2	223.4	74.7	13N	23E
-0905	Aug 20	02:30:51	23601	586	-35923	33	T	-p	0.3473	2.1992	1.2418	311.5	199.2	68.2	16S	61E
-0904	Feb 13	05:32:38	23593	585	-35917	38	T	t-	0.4058	2.1499	1.0775	356.5	212.0	44.4	17N	20E
-0904	Aug 08	17:14:49	23585	585	-35911	43	T	p-	-0.3827	2.1519	1.1597	325.2	202.7	58.7	19S	160W
-0903	Feb 01	11:18:07	23576	585	-35905	48	N	a-	1.0959	0.8585	-0.1639	246.2	-	-	21N	67W
-0903	Jul 29	02:03:03	23568	585	-35899	53	N	t-	-1.1768	0.7214	-0.3233	238.4	-	-	22S	68E
-0903	Dec 23	13:33:32	23561	585	-35894	20	P	-a	-0.9413	1.1161	0.1455	254.2	81.4	-	23N	104W
-0902	Jun 18	12:52:14	23552	585	-35888	25	P	-t	0.9030	1.2352	0.1678	306.4	98.8	-	22S	97W
-0902	Dec 13	05:05:29	23544	584	-35882	30	T	-p	-0.2851	2.3275	1.3421	320.1	204.5	78.7	22N	21E
-0901	Jun 07	15:59:05	23536	584	-35876	35	T+	pp	0.1136	2.6640	1.6351	355.2	227.1	101.3	22S	144W
-0901	Dec 02	16:56:23	23527	584	-35870	40	T	p-	0.4142	2.1167	1.0797	335.2	202.4	43.1	21N	158W
-0900	May 27	02:11:31	23519	584	-35864	45	P	a-	-0.6567	1.6401	0.6659	300.6	166.9	-	20S	63E
-0900	Nov 20	21:39:42	23510	584	-35858	50	N	t-	1.1447	0.8036	-0.2875	256.9	-	-	19N	130E

9TH CENTURY BCE

In the 9th century BCE the total number of lunar eclipses was 225 lunar eclipses:

79 penumbral lunar eclipses, 62 partial lunar eclipses, 84 total lunar eclipses

(27 central total lunar eclipses, 57 non-central total lunar eclipses).

	CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
	DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG
				GREATEST	S							m	m	m	°	°
					ECLIPSE											
-0899 Apr 17	11:24:55	23503	583	-35853	17	N	-a	1.1260	0.7634	-0.1799	217.0	-	-	6S	73W	
-0899 May 16	18:03:04	23502	583	-35852	55	N	a-	-1.3618	0.3297	-0.6117	148.9	-	-	18S	175W	
-0899 Oct 11	02:12:57	23495	583	-35847	22	N	-t	-1.2091	0.6834	-0.4036	239.8	-	-	3N	63E	
-0898 Apr 07	03:22:08	23486	583	-35841	27	T	-a	0.4152	2.0837	1.1082	318.5	198.4	48.8	3S	49E	
-0898 Sep 30	06:58:35	23478	583	-35835	32	P	-p	-0.4629	2.0247	0.9930	332.2	197.8	-	1S	8W	
-0897 Mar 27	13:53:08	23470	583	-35829	37	T	p-	-0.3538	2.2253	1.1928	345.9	212.9	66.2	1N	108W	
-0897 Sep 19	18:59:59	23461	583	-35823	42	T+	p-	0.2586	2.3723	1.3944	320.9	206.6	83.2	5S	172E	
-0896 Mar 15	17:04:24	23453	582	-35817	47	N	t-	-1.1300	0.8232	-0.2532	261.5	-	-	5N	156W	
-0896 Sep 08	10:58:43	23445	582	-35811	52	P	a-	0.9382	1.1163	0.1564	253.5	84.3	-	8S	67W	
-0895 Feb 03	01:25:57	23438	582	-35806	19	N	-t	1.0644	0.9364	-0.1257	267.7	-	-	20N	81E	
-0895 Jul 30	15:47:08	23429	582	-35800	24	P	-a	-0.9874	1.0490	0.0437	264.8	47.9	-	22S	138W	
-0894 Jan 23	09:10:34	23421	582	-35794	29	T	-p	0.3046	2.3035	1.2948	331.6	208.8	76.2	22N	36W	
-0894 Jul 19	22:38:29	23412	581	-35788	34	T-	-p	-0.2555	2.4171	1.3616	361.1	224.4	86.9	23S	118E	
-0893 Jan 12	23:03:13	23404	581	-35782	39	T	p-	-0.3949	2.1185	1.1478	310.6	195.0	54.9	23N	115E	
-0893 Jul 08	23:39:46	23396	581	-35776	44	P	t-	0.5013	1.9751	0.9017	355.9	203.8	-	23S	102E	
-0892 Jan 02	14:56:45	23387	581	-35770	49	N	a-	-1.0654	0.8906	-0.0845	234.2	-	-	23N	125W	
-0892 May 28	13:42:35	23380	581	-35765	16	N	-t	-1.4828	0.1438	-0.8692	109.2	-	-	21S	111W	
-0892 Jun 27	01:32:15	23379	581	-35764	54	N	t-	1.2336	0.6160	-0.4265	223.5	-	-	23S	73E	
-0892 Nov 22	13:40:40	23372	581	-35759	21	N	-a	1.0366	0.9834	-0.0711	267.2	-	-	20N	110W	
-0891 May 18	01:49:19	23364	580	-35753	26	P	-a	-0.6644	1.6195	0.6581	294.7	164.1	-	18S	68E	
-0891 Nov 11	16:22:59	23355	580	-35747	31	T	-t	0.3768	2.2171	1.1168	365.7	216.2	54.2	16N	151W	
-0890 May 07	18:29:30	23347	580	-35741	36	T+	pp	0.0883	2.6657	1.7257	316.5	210.8	97.8	14S	178E	
-0890 Oct 31	15:21:47	23338	580	-35735	41	T	p-	-0.3000	2.3573	1.2586	369.3	222.9	76.7	11N	136W	
-0889 Apr 27	11:11:08	23330	580	-35729	46	P	a-	0.8408	1.2962	0.3339	273.7	122.7	-	10S	71W	
-0889 Oct 20	18:17:09	23322	580	-35723	51	P	a-	-0.9689	1.1055	0.0553	279.1	54.9	-	6N	179W	
-0888 Mar 17	10:48:31	23315	579	-35718	18	N	-t	-1.0855	0.8915	-0.1585	261.9	-	-	4N	62W	
-0888 Sep 09	18:15:51	23306	579	-35712	23	N	-a	1.0767	0.8654	-0.1010	231.1	-	-	8S	177W	
-0887 Mar 06	12:21:18	23298	579	-35706	28	T	-t	-0.3677	2.2253	1.1421	366.2	219.0	59.8	9N	84W	
-0887 Aug 30	10:36:07	23290	579	-35700	33	T	-p	0.3867	2.1290	1.1675	310.3	196.2	58.2	12S	62W	
-0886 Feb 23	12:54:19	23281	579	-35694	38	T	t-	0.3629	2.2257	1.1592	357.5	215.9	61.9	13N	92W	
-0886 Aug 20	00:56:42	23273	578	-35688	43	T	p-	-0.3369	2.2390	1.2406	329.2	206.9	70.3	16S	84E	
-0885 Feb 12	19:14:01	23265	578	-35682	48	N	a-	1.0628	0.9160	-0.1000	251.6	-	-	18N	173E	
-0885 Aug 09	09:10:19	23256	578	-35676	53	N	t-	-1.1225	0.8239	-0.2269	253.3	-	-	20S	40W	

-0884	Jan 03	22:18:52	23249	578	-35671	20	P	-a	-0.9482	1.1022	0.1338	252.7	78.2	-	23N	124E
-0884	Jun 28	19:17:44	23241	578	-35665	25	P	-t	0.9850	1.0849	0.0170	291.6	32.1	-	23S	166E
-0884	Dec 23	13:50:48	23233	578	-35659	30	T	-p	-0.2896	2.3195	1.3335	320.6	204.6	78.1	23N	110W
-0883	Jun 17	22:44:09	23224	577	-35653	35	T+	pp	0.1941	2.5151	1.4886	351.9	223.6	94.6	23S	114E
-0883	Dec 13	01:26:12	23216	577	-35647	40	T	p-	0.4134	2.1193	1.0801	336.5	203.0	43.3	23N	74E
-0882	Jun 07	09:22:15	23208	577	-35641	45	P	a-	-0.5781	1.7828	0.8113	306.7	179.3	-	22S	46W
-0882	Dec 02	05:48:21	23199	577	-35635	50	N	t-	1.1437	0.8064	-0.2865	257.9	-	-	22N	8E
-0881	Apr 28	18:55:11	23192	577	-35630	17	N	-a	1.1955	0.6355	-0.3070	200.7	-	-	10S	172E
-0881	May 28	01:27:08	23191	577	-35629	55	N	a-	-1.2882	0.4643	-0.4762	174.3	-	-	21S	72E
-0881	Oct 22	10:10:37	23184	576	-35624	22	N	-t	-1.2195	0.6643	-0.4228	236.4	-	-	7N	58W
-0880	Apr 17	10:44:05	23176	576	-35618	27	P	-a	0.4850	1.9562	0.9797	315.1	191.6	-	7S	64W
-0880	Oct 10	15:14:14	23167	576	-35612	32	P	-p	-0.4761	2.0001	0.9690	330.2	195.7	-	3N	134W
-0879	Apr 06	20:53:19	23159	576	-35606	37	T	pp	-0.2854	2.3511	1.3179	350.3	218.8	81.6	3S	144E
-0879	Sep 30	03:26:53	23151	576	-35600	42	T+	p-	0.2383	2.4100	1.4313	321.0	207.3	85.6	1S	43E
-0878	Mar 26	23:50:21	23142	576	-35594	47	N	t-	-1.0648	0.9419	-0.1326	276.5	-	-	0N	101E
-0878	Sep 19	19:21:24	23134	575	-35588	52	P	a-	0.9127	1.1648	0.2015	257.9	95.1	-	4S	165E
-0877	Feb 14	09:01:59	23127	575	-35583	19	N	-t	1.0959	0.8753	-0.1805	259.3	-	-	17N	34W
-0877	Aug 10	23:14:34	23119	575	-35577	24	N	-a	-1.0440	0.9484	-0.0633	255.7	-	-	19S	109E
-0876	Feb 03	17:21:24	23110	575	-35571	29	T	-p	0.3268	2.2596	1.2570	329.1	206.8	72.0	19N	159W
-0876	Jul 30	05:29:42	23102	575	-35565	34	T	-t	-0.3238	2.2946	1.2335	359.7	219.9	73.3	21S	14E
-0875	Jan 23	07:36:13	23094	574	-35559	39	T	p-	-0.3783	2.1473	1.1803	310.8	196.4	60.0	21N	14W
-0875	Jul 19	06:13:33	23085	574	-35553	44	T	t-	0.4250	2.1162	1.0407	361.6	213.3	33.1	22S	3E
-0874	Jan 12	23:35:12	23077	574	-35547	49	N	a-	-1.0561	0.9072	-0.0671	236.3	-	-	22N	105E
-0874	Jun 08	20:34:04	23070	574	-35542	16	Ne	-t	-1.5542	0.0112	-0.9987	30.7	-	-	23S	145E
-0874	Jul 08	08:18:43	23069	574	-35541	54	N	t-	1.1558	0.7581	-0.2832	243.7	-	-	23S	29W
-0874	Dec 03	22:05:23	23062	574	-35536	21	N	-a	1.0401	0.9784	-0.0789	267.6	-	-	22N	123E
-0873	May 29	09:05:50	23053	574	-35530	26	P	-a	-0.7369	1.4851	0.5264	285.9	149.4	-	21S	43W
-0873	Nov 23	00:26:09	23045	573	-35524	31	T	-t	0.3813	2.2098	1.1076	366.1	216.0	52.2	19N	87E
-0872	May 18	01:55:33	23037	573	-35518	36	T+	pp	0.0149	2.8001	1.8607	316.9	211.6	99.5	17S	65E
-0872	Nov 10	23:24:27	23029	573	-35512	41	T	p-	-0.2945	2.3673	1.2689	369.0	223.0	77.8	15N	102E
-0871	May 07	18:28:59	23020	573	-35506	46	P	a-	0.7705	1.4260	0.4621	283.7	142.0	-	13S	177E
-0871	Oct 31	02:37:33	23012	573	-35500	51	P	a-	-0.9607	1.1198	0.0710	279.5	61.9	-	11N	54E
-0870	Mar 28	17:48:23	23005	572	-35495	18	N	-t	-1.1513	0.7708	-0.2793	247.2	-	-	0S	170W
-0870	Sep 21	02:38:35	22997	572	-35489	23	N	-a	1.0988	0.8256	-0.1423	226.4	-	-	3S	55E
-0869	Mar 17	19:13:10	22988	572	-35483	28	T	-t	-0.4285	2.1122	1.0321	362.1	212.8	29.4	5N	170E
-0869	Sep 10	18:50:21	22980	572	-35477	33	T	-a	0.4183	2.0732	1.1073	309.3	193.4	47.5	8S	173E
-0868	Mar 05	20:07:22	22972	572	-35471	38	T	t-	0.3122	2.3157	1.2552	358.5	219.8	75.7	9N	158E
-0868	Aug 30	08:45:20	22963	572	-35465	43	T	p-	-0.2977	2.3141	1.3093	332.7	210.1	78.0	13S	35W
-0867	Feb 23	03:02:12	22955	571	-35459	48	N	a-	1.0226	0.9864	-0.0230	258.0	-	-	14N	55E
-0867	Aug 19	16:24:13	22947	571	-35453	53	N	t-	-1.0745	0.9153	-0.1419	265.6	-	-	17S	150W

-0866	Jan 14	06:58:11	22940	571	-35448	20	P	-a	-0.9601	1.0791	0.1133	250.5	72.2	-	22N	6W
-0866	Jul 10	01:48:45	22932	571	-35442	25	N	-t	1.0624	0.9434	-0.1254	275.7	-	-	23S	68E
-0865	Jan 03	22:31:57	22923	571	-35436	30	T	-p	-0.2968	2.3065	1.3203	321.0	204.6	77.1	23N	120E
-0865	Jun 29	05:34:00	22915	571	-35430	35	T+	pp	0.2716	2.3719	1.3474	347.9	218.7	84.1	24S	11E
-0865	Dec 24	09:52:52	22907	570	-35424	40	T	p-	0.4109	2.1248	1.0838	337.8	203.8	44.4	24N	52W
-0864	Jun 17	16:35:41	22899	570	-35418	45	P	a-	-0.5012	1.9229	0.9536	311.6	189.0	-	24S	155W
-0864	Dec 12	13:55:34	22890	570	-35412	50	N	t-	1.1416	0.8107	-0.2833	259.0	-	-	24N	114W
-0863	May 09	02:21:03	22883	570	-35407	17	N	-a	1.2682	0.5020	-0.4404	180.9	-	-	13S	59E
-0863	Jun 07	08:50:50	22882	570	-35406	55	N	a-	-1.2142	0.6001	-0.3402	195.4	-	-	23S	40W
-0863	Nov 01	18:14:59	22875	570	-35401	22	N	-t	-1.2251	0.6538	-0.4328	234.3	-	-	11N	179E
-0862	Apr 28	18:00:29	22867	569	-35395	27	P	-a	0.5584	1.8223	0.8442	310.6	182.8	-	11S	176W
-0862	Oct 21	23:36:15	22859	569	-35389	32	P	-p	-0.4848	1.9837	0.9537	328.4	194.1	-	8N	99E
-0861	Apr 18	03:47:39	22850	569	-35383	37	T-	pp	-0.2130	2.4845	1.4500	354.3	223.7	92.6	7S	38E
-0861	Oct 11	12:00:44	22842	569	-35377	42	T+	p-	0.2236	2.4372	1.4580	320.9	207.6	87.1	4N	87W
-0860	Apr 06	06:29:11	22834	569	-35371	47	Nx	t-	-0.9937	1.0714	-0.0014	291.0	-	-	4S	2W
-0860	Sep 30	03:50:53	22825	569	-35365	52	P	a-	0.8930	1.2026	0.2360	261.3	102.5	-	0N	36E
-0859	Feb 24	16:30:01	22818	568	-35360	19	N	-t	1.1347	0.8010	-0.2484	248.8	-	-	13N	147W
-0859	Aug 21	06:49:05	22810	568	-35354	24	N	-a	-1.0940	0.8599	-0.1584	247.0	-	-	16S	6W
-0858	Feb 14	01:22:44	22802	568	-35348	29	T	-p	0.3579	2.1995	1.2030	326.0	204.0	65.1	16N	79E
-0858	Aug 10	12:29:39	22794	568	-35342	34	T	-t	-0.3844	2.1863	1.1196	357.9	214.8	54.6	19S	92W
-0857	Feb 03	16:00:50	22785	568	-35336	39	T	p-	-0.3540	2.1898	1.2266	311.4	198.3	66.2	19N	141W
-0857	Jul 30	12:55:30	22777	567	-35330	44	T	t-	0.3550	2.2458	1.1680	365.9	220.2	64.4	21S	99W
-0856	Jan 24	08:06:15	22769	567	-35324	49	N	a-	-1.0411	0.9342	-0.0392	239.5	-	-	20N	23W
-0856	Jul 18	15:12:21	22761	567	-35318	54	N	t-	1.0824	0.8925	-0.1481	260.0	-	-	22S	134W
-0856	Dec 14	06:27:48	22754	567	-35313	21	N	-a	1.0447	0.9711	-0.0883	267.7	-	-	24N	3W
-0855	Jun 08	16:22:07	22745	567	-35307	26	P	-a	-0.8102	1.3496	0.3929	276.1	131.4	-	23S	153W
-0855	Dec 03	08:30:39	22737	567	-35301	31	T	-t	0.3845	2.2045	1.1015	366.4	215.9	50.8	22N	35W
-0854	May 29	09:19:52	22729	566	-35295	36	T-	pp	-0.0600	2.7175	1.7778	316.8	211.3	98.8	20S	48W
-0854	Nov 22	07:30:12	22721	566	-35289	41	T	p-	-0.2909	2.3731	1.2760	368.4	222.9	78.5	18N	20W
-0853	May 19	01:44:08	22712	566	-35283	46	P	a-	0.6985	1.5593	0.5932	293.0	158.1	-	17S	67E
-0853	Nov 11	11:03:38	22704	566	-35277	51	P	a-	-0.9563	1.1270	0.0802	279.2	65.5	-	14N	74W
-0852	Apr 08	00:40:08	22697	566	-35272	18	N	-t	-1.2225	0.6402	-0.4101	228.9	-	-	5S	85E
-0852	May 07	13:07:00	22696	566	-35271	56	Nb	t-	1.5205	0.0781	-0.9418	81.6	-	-	13S	103W
-0852	Oct 01	11:08:42	22689	565	-35266	23	N	-a	1.1153	0.7961	-0.1733	222.7	-	-	1N	74W
-0851	Mar 28	01:57:07	22681	565	-35260	28	P	-t	-0.4957	1.9873	0.9103	356.9	204.5	-	0N	67E
-0851	Sep 21	03:11:34	22673	565	-35254	33	T	-a	0.4436	2.0289	1.0588	308.6	191.1	35.7	4S	46E
-0850	Mar 17	03:13:05	22664	565	-35248	38	T+	p-	0.2548	2.4180	1.3635	359.3	223.4	86.7	5N	49E
-0850	Sep 10	16:41:37	22656	565	-35242	43	T-	p-	-0.2658	2.3759	1.3647	335.6	212.5	83.1	9S	156W
-0849	Mar 06	10:44:08	22648	565	-35236	48	P	a-	0.9766	1.0676	0.0647	264.8	57.7	-	10N	62W
-0849	Aug 30	23:44:49	22640	564	-35230	53	N	t-	-1.0325	0.9954	-0.0679	275.8	-	-	13S	99E

-0848	Jan 25	15:30:58	22633	564	-35225	20	P	-a	-0.9775	1.0458	0.0828	247.3	61.9	-	20N	134W
-0848	Jul 20	08:27:03	22624	564	-35219	25	N	-t	1.1336	0.8131	-0.2567	259.1	-	-	22S	32W
-0847	Jan 14	07:05:24	22616	564	-35213	30	T	-p	-0.3101	2.2820	1.2959	321.2	204.2	74.9	22N	9W
-0847	Jul 09	12:30:32	22608	564	-35207	35	T	-p	0.3445	2.2375	1.2144	343.2	212.7	69.0	23S	94W
-0846	Jan 03	18:12:22	22600	563	-35201	40	T	p-	0.4033	2.1392	1.0971	339.4	205.1	47.7	24N	177W
-0846	Jun 28	23:54:35	22592	563	-35195	45	T	a-	-0.4279	2.0567	1.0888	315.4	196.5	44.3	24S	94E
-0846	Dec 23	21:56:58	22583	563	-35189	50	N	t-	1.1355	0.8221	-0.2721	260.9	-	-	25N	125E
-0845	May 20	09:45:07	22576	563	-35184	17	N	-a	1.3421	0.3667	-0.5763	156.8	-	-	16S	54W
-0845	Jun 18	16:17:27	22575	563	-35183	55	N	a-	-1.1423	0.7322	-0.2086	212.9	-	-	24S	152W
-0845	Nov 13	02:24:21	22568	563	-35178	22	N	-t	-1.2270	0.6498	-0.4356	233.0	-	-	15N	56E
-0844	May 09	01:10:23	22560	563	-35172	27	P	-a	0.6363	1.6805	0.7002	304.9	171.1	-	14S	75E
-0844	Nov 01	08:05:36	22552	562	-35166	32	P	-p	-0.4882	1.9766	0.9481	327.1	193.1	-	12N	30W
-0843	Apr 28	10:32:55	22543	562	-35160	37	T-	pp	-0.1344	2.6296	1.5935	357.6	227.5	100.2	11S	65W
-0843	Oct 21	20:42:00	22535	562	-35154	42	T+	p-	0.2145	2.4540	1.4746	320.7	207.6	88.0	8N	141E
-0842	Apr 17	12:59:22	22527	562	-35148	47	P	t-	-0.9156	1.2140	0.1428	305.2	91.6	-	8S	101W
-0842	Oct 11	12:28:00	22519	562	-35142	52	P	a-	0.8799	1.2283	0.2585	263.7	107.0	-	5N	96W
-0841	Mar 07	23:51:36	22512	561	-35137	19	N	-t	1.1794	0.7156	-0.3273	236.1	-	-	10N	100E
-0841	Sep 01	14:29:27	22504	561	-35131	24	N	-a	-1.1383	0.7820	-0.2430	238.5	-	-	13S	123W
-0840	Feb 25	09:18:56	22496	561	-35125	29	T	-p	0.3941	2.1301	1.1397	322.5	200.6	55.0	13N	41W
-0840	Aug 20	19:35:30	22487	561	-35119	34	T	-t	-0.4395	2.0880	1.0157	355.8	209.1	20.5	16S	161E
-0839	Feb 14	00:18:20	22479	561	-35113	39	T	p-	-0.3239	2.2433	1.2838	312.2	200.4	72.7	16N	94E
-0839	Aug 09	19:45:24	22471	561	-35107	44	T	t-	0.2912	2.3642	1.2839	369.1	225.2	80.3	18S	158E
-0838	Feb 03	16:29:37	22463	560	-35101	49	N	a-	-1.0205	0.9716	-0.0008	243.6	-	-	18N	150W
-0838	Jul 29	22:15:38	22455	560	-35095	54	Nx	t-	1.0157	1.0145	-0.0256	272.8	-	-	20S	120E
-0838	Dec 25	14:44:30	22448	560	-35090	21	N	-a	1.0531	0.9564	-0.1045	266.9	-	-	25N	127W
-0837	Jun 19	23:43:33	22439	560	-35084	26	P	-a	-0.8798	1.2212	0.2659	265.8	109.9	-	24S	96E
-0837	Dec 14	16:31:58	22431	560	-35078	31	T	-t	0.3899	2.1946	1.0914	366.4	215.5	48.4	23N	155W
-0836	Jun 08	16:44:34	22423	560	-35072	36	T-	-p	-0.1344	2.5813	1.6409	316.1	209.9	95.6	22S	160W
-0836	Dec 02	15:36:51	22415	559	-35066	41	T	p-	-0.2876	2.3783	1.2831	367.7	222.9	79.2	21N	142W
-0835	May 29	08:56:30	22407	559	-35060	46	P	a-	0.6246	1.6963	0.7273	301.6	171.8	-	19S	43W
-0835	Nov 21	19:32:01	22398	559	-35054	51	P	a-	-0.9530	1.1316	0.0875	278.6	68.2	-	18N	158E
-0834	Apr 19	07:22:33	22392	559	-35049	18	N	-t	-1.3001	0.4983	-0.5526	205.3	-	-	9S	18W
-0834	May 18	19:53:18	22390	559	-35048	56	N	t-	1.4475	0.2136	-0.8092	133.8	-	-	16S	153E
-0834	Oct 12	19:46:41	22383	559	-35043	23	N	-a	1.1260	0.7772	-0.1934	220.3	-	-	6N	154E
-0833	Apr 08	08:33:13	22375	558	-35037	28	P	-t	-0.5689	1.8515	0.7773	350.2	193.5	-	4S	34W
-0833	Oct 02	11:39:46	22367	558	-35031	33	T	-a	0.4628	1.9959	1.0216	308.2	189.2	21.9	1N	83W
-0832	Mar 27	10:11:55	22359	558	-35025	38	T+	pp	0.1908	2.5324	1.4838	359.7	226.3	95.2	1N	58W
-0832	Sep 21	00:45:08	22351	558	-35019	43	T-	p-	-0.2409	2.4249	1.4073	338.2	214.4	86.6	4S	81E
-0831	Mar 16	18:17:18	22342	558	-35013	48	P	a-	0.9224	1.1637	0.1672	272.3	91.2	-	6N	178W
-0831	Sep 10	07:13:56	22334	558	-35007	53	Nx	t-	-0.9980	1.0618	-0.0077	284.1	-	-	9S	15W

-0830	Feb 04	23:56:14	22327	557	-35002	20	P	-a	-1.0011	1.0009	0.0408	242.9	43.7	-	17N	98E
-0830	Jul 31	15:13:50	22319	557	-34996	25	N	-t	1.1984	0.6950	-0.3760	242.0	-	-	20S	135W
-0829	Jan 25	15:31:58	22311	557	-34990	30	T	-p	-0.3285	2.2480	1.2622	321.1	203.4	71.5	21N	136W
-0829	Jul 20	19:35:08	22303	557	-34984	35	T	-t	0.4116	2.1138	1.0918	338.2	206.0	46.9	22S	159E
-0828	Jan 15	02:26:16	22295	557	-34978	40	T	p-	0.3920	2.1603	1.1175	341.2	206.8	52.3	23N	60E
-0828	Jul 09	07:17:36	22287	556	-34972	45	T	a-	-0.3574	2.1856	1.2186	318.4	202.2	66.6	24S	17W
-0827	Jan 03	05:54:28	22278	556	-34966	50	N	t-	1.1267	0.8380	-0.2558	263.4	-	-	25N	6E
-0827	May 30	17:07:43	22272	556	-34961	17	N	-a	1.4165	0.2309	-0.7133	126.2	-	-	19S	166W
-0827	Jun 28	23:46:41	22270	556	-34960	55	N	a-	-1.0728	0.8603	-0.0816	227.8	-	-	25S	95E
-0827	Nov 23	10:36:05	22263	556	-34955	22	N	-t	-1.2275	0.6478	-0.4355	232.1	-	-	18N	68W
-0826	May 20	08:17:36	22255	556	-34949	27	P	-a	0.7153	1.5369	0.5538	298.0	156.3	-	17S	34W
-0826	Nov 12	16:38:41	22247	556	-34943	32	P	-p	-0.4890	1.9741	0.9477	325.8	192.5	-	15N	160W
-0825	May 09	17:14:37	22239	555	-34937	37	T-	pp	-0.0535	2.7790	1.7410	360.0	229.9	104.3	15S	168W
-0825	Nov 02	05:27:01	22231	555	-34931	42	T+	p-	0.2084	2.4652	1.4859	320.3	207.6	88.5	12N	8E
-0824	Apr 27	19:25:13	22223	555	-34925	47	P	t-	-0.8339	1.3633	0.2933	318.2	128.5	-	12S	160E
-0824	Oct 21	21:10:15	22214	555	-34919	52	P	a-	0.8713	1.2455	0.2729	265.5	109.8	-	9N	132E
-0823	Mar 18	07:04:21	22208	555	-34914	19	N	-t	1.2318	0.6162	-0.4202	220.2	-	-	5N	10W
-0823	Apr 16	20:27:49	22206	555	-34913	57	Nb	t-	-1.5588	0.0250	-1.0289	48.2	-	-	8S	145E
-0823	Sep 11	22:18:23	22199	554	-34908	24	N	-a	-1.1747	0.7185	-0.3130	231.2	-	-	9S	118E
-0822	Mar 07	17:06:03	22191	554	-34902	29	T	-a	0.4384	2.0457	1.0613	318.3	196.0	37.3	9N	160W
-0822	Sep 01	02:50:59	22183	554	-34896	34	P	-t	-0.4859	2.0058	0.9279	353.9	203.6	-	12S	50E
-0821	Feb 25	08:26:47	22175	554	-34890	39	T	p-	-0.2860	2.3108	1.3550	313.2	202.9	79.4	12N	30W
-0821	Aug 21	02:46:10	22167	554	-34884	44	T+	pp	0.2360	2.4666	1.3839	371.3	228.5	89.7	15S	51E
-0820	Feb 15	00:43:57	22159	554	-34878	49	P	a-	-0.9931	1.0213	0.0501	248.9	49.0	-	15N	86E
-0820	Aug 09	05:27:29	22150	553	-34872	54	P	h-	0.9549	1.1260	0.0860	283.1	68.9	-	18S	11E
-0819	Jan 04	22:56:10	22144	553	-34867	21	N	-h	1.0649	0.9351	-0.1266	265.3	-	-	25N	111E
-0819	Jun 30	07:07:35	22136	553	-34861	26	P	-a	-0.9478	1.0960	0.1413	254.7	81.4	-	25S	16W
-0819	Dec 25	00:29:47	22127	553	-34855	31	T	-t	0.3980	2.1795	1.0770	366.2	214.9	44.7	24N	86E
-0818	Jun 20	00:10:29	22119	553	-34849	36	T-	p-	-0.2077	2.4477	1.5057	314.7	207.5	89.9	24S	88E
-0818	Dec 13	23:43:39	22111	552	-34843	41	T	p-	-0.2837	2.3841	1.2917	366.9	222.9	80.0	23N	96E
-0817	Jun 09	16:07:38	22103	552	-34837	46	P	a-	0.5505	1.8340	0.8616	309.3	183.3	-	21S	152W
-0817	Dec 03	04:02:19	22095	552	-34831	51	P	a-	-0.9506	1.1344	0.0935	277.8	70.2	-	20N	30E
-0816	Apr 29	13:59:23	22088	552	-34826	18	N	-t	-1.3808	0.3506	-0.7013	175.1	-	-	13S	119W
-0816	May 29	02:36:44	22087	552	-34825	56	N	t-	1.3725	0.3528	-0.6733	170.5	-	-	19S	51E
-0816	Oct 23	04:30:24	22080	552	-34820	23	N	-a	1.1321	0.7665	-0.2051	218.9	-	-	10N	21E
-0815	Apr 18	15:02:28	22072	552	-34814	28	P	-t	-0.6475	1.7061	0.6345	342.0	179.1	-	8S	134W
-0815	Oct 12	20:14:22	22064	551	-34808	33	P	-a	0.4761	1.9734	0.9952	308.2	187.9	-	5N	146E
-0814	Apr 07	17:05:48	22056	551	-34802	38	T+	pp	0.1220	2.6557	1.6127	359.6	228.3	101.0	3S	164W
-0814	Oct 02	08:54:45	22047	551	-34796	43	T-	p-	-0.2218	2.4628	1.4393	340.5	215.9	88.9	0N	43W
-0813	Mar 28	01:46:00	22039	551	-34790	48	P	a-	0.8638	1.2683	0.2778	279.6	115.3	-	2N	68E

-0813	Sep 21	14:50:41	22031	551	-34784	53	P	t-	-0.9703	1.1157	0.0404	290.6	48.5	-	5S	131W
-0812	Feb 16	08:13:37	22024	550	-34779	20	N	-a	-1.0313	0.9442	-0.0131	237.3	-	-	14N	27W
-0812	Mar 16	16:31:09	22023	550	-34778	58	Nb	a-	1.5331	0.0218	-0.9322	39.6	-	-	6N	152W
-0812	Aug 10	22:09:20	22016	550	-34773	25	N	-t	1.2560	0.5899	-0.4826	225.0	-	-	17S	120E
-0811	Feb 04	23:49:28	22008	550	-34767	30	T	-p	-0.3538	2.2015	1.2161	320.6	202.0	66.1	18N	99E
-0811	Jul 31	02:49:03	22000	550	-34761	35	P	-t	0.4716	2.0035	0.9822	333.0	198.7	-	20S	50E
-0810	Jan 25	10:29:22	21992	550	-34755	40	T	p-	0.3730	2.1954	1.1522	343.4	209.2	59.1	21N	62W
-0810	Jul 20	14:48:57	21984	550	-34749	45	T	p-	-0.2933	2.3029	1.3363	320.4	206.2	79.1	23S	131W
-0809	Jan 14	13:43:38	21976	549	-34743	50	N	t-	1.1121	0.8643	-0.2285	267.1	-	-	24N	111W
-0809	Jun 11	00:30:19	21969	549	-34738	17	Ne	-a	1.4904	0.0962	-0.8499	82.7	-	-	21S	82E
-0809	Jul 10	07:20:03	21967	549	-34737	55	P	a-	-1.0067	0.9824	0.0388	240.4	42.7	-	25S	19W
-0809	Dec 04	18:49:04	21961	549	-34732	22	N	-t	-1.2273	0.6468	-0.4338	231.3	-	-	20N	168E
-0808	May 30	15:21:25	21953	549	-34726	27	P	-a	0.7959	1.3909	0.4044	289.6	137.1	-	20S	141W
-0808	Nov 23	01:15:37	21944	549	-34720	32	P	-p	-0.4875	1.9755	0.9516	324.7	192.3	-	19N	70E
-0807	May 19	23:49:37	21936	549	-34714	37	T+	pp	0.0320	2.8197	1.7792	361.5	230.8	105.0	18S	92E
-0807	Nov 12	14:17:12	21928	548	-34708	42	T+	p-	0.2062	2.4690	1.4901	319.9	207.4	88.6	16N	126W
-0806	May 09	01:46:14	21920	548	-34702	47	P	t-	-0.7480	1.5204	0.4513	330.0	155.6	-	15S	63E
-0806	Nov 02	05:57:12	21912	548	-34696	52	P	a-	0.8670	1.2547	0.2796	266.6	111.1	-	13N	1W
-0805	Mar 29	14:12:27	21905	548	-34691	19	N	-t	1.2885	0.5091	-0.5211	201.3	-	-	1N	119W
-0805	Apr 28	03:05:18	21904	548	-34690	57	N	t-	-1.4786	0.1699	-0.8796	123.5	-	-	12S	43E
-0805	Sep 23	06:14:15	21897	548	-34685	24	N	-a	-1.2044	0.6674	-0.3706	225.0	-	-	4S	3W
-0804	Mar 18	00:47:29	21889	547	-34679	29	P	-a	0.4882	1.9514	0.9729	313.5	190.2	-	5N	83E
-0804	Sep 11	10:13:19	21881	547	-34673	34	P	-t	-0.5260	1.9348	0.8516	351.9	198.1	-	8S	62W
-0803	Mar 07	16:28:27	21873	547	-34667	39	T-	p-	-0.2424	2.3892	1.4369	314.3	205.3	85.5	8N	152W
-0803	Aug 31	09:56:17	21865	547	-34661	44	T+	pp	0.1879	2.5562	1.4711	372.7	230.7	95.7	12S	58W
-0802	Feb 25	08:49:11	21857	547	-34655	49	P	a-	-0.9587	1.0840	0.1137	255.2	73.4	-	11N	37W
-0802	Aug 20	12:50:31	21849	547	-34649	54	P	h-	0.9020	1.2232	0.1832	291.0	98.9	-	15S	101W
-0801	Jan 16	06:59:44	21842	546	-34644	21	N	-h	1.0828	0.9025	-0.1596	262.3	-	-	23N	10W
-0801	Jul 11	14:37:35	21834	546	-34638	26	P	-a	-1.0115	0.9791	0.0247	243.3	34.5	-	24S	129W
-0800	Jan 05	08:21:23	21826	546	-34632	31	T	-t	0.4110	2.1549	1.0538	365.4	213.7	37.7	24N	32W
-0800	Jun 30	07:39:33	21818	546	-34626	36	T	-p	-0.2783	2.3192	1.3750	312.9	204.0	81.3	24S	25W
-0800	Dec 24	07:46:27	21809	546	-34620	41	T	p-	-0.2760	2.3964	1.3076	366.1	223.1	81.6	23N	25W

8TH CENTURY BCE

**In the 8th century BCE the total number of lunar eclipses was 239 lunar eclipses:
 87 penumbral lunar eclipses, 88 partial lunar eclipses, 64 total lunar eclipses
 (43 central total lunar eclipses, 21 non-central total lunar eclipses).**

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG
GREATEST S										m	m	m	°	°	
ECLIPSE															
-0799 Jun 19	23:18:53	21801	545	-34614	46	P	a-	0.4772	1.9705	0.9940	316.2	192.9	-	23S	99E
-0799 Dec 13	12:31:27	21793	545	-34608	51	P	a-	-0.9463	1.1402	0.1034	277.3	73.5	-	22N	98W
-0798 May 10	20:30:29	21787	545	-34603	18	N	t-	-1.4648	0.1972	-0.8562	133.5	-	-	16S	141E
-0798 Jun 09	09:19:03	21785	545	-34602	56	N	t-	1.2972	0.4929	-0.5371	199.7	-	-	21S	51W
-0798 Nov 03	13:18:32	21778	545	-34597	23	N	-a	1.1351	0.7613	-0.2110	218.1	-	-	14N	112W
-0797 Apr 29	21:27:10	21770	545	-34591	28	P	t-	-0.7297	1.5541	0.4849	332.0	160.3	-	12S	128E
-0797 Oct 24	04:55:06	21762	545	-34585	33	P	-a	0.4843	1.9603	0.9784	308.5	187.2	-	9N	14E
-0796 Apr 17	23:53:40	21754	544	-34579	38	T+	pp	0.0473	2.7902	1.7526	358.8	229.3	104.2	8S	92E
-0796 Oct 12	17:11:22	21746	544	-34573	43	T-	p-	-0.2094	2.4886	1.4593	342.6	216.9	90.3	5N	169W
-0795 Apr 07	09:07:52	21738	544	-34567	48	P	a-	0.7983	1.3856	0.4008	287.1	135.6	-	3S	45W
-0795 Oct 01	22:35:37	21730	544	-34561	53	P	t-	-0.9496	1.1563	0.0755	295.6	66.2	-	1S	110E
-0794 Feb 26	16:22:14	21723	544	-34556	20	N	-a	-1.0686	0.8743	-0.0803	229.9	-	-	11N	151W
-0794 Mar 28	00:16:17	21722	544	-34555	58	N	a-	1.4785	0.1200	-0.8301	91.9	-	-	2N	89E
-0794 Aug 22	05:15:41	21715	543	-34550	25	N	t-	1.3053	0.5003	-0.5737	208.6	-	-	14S	12E
-0793 Feb 16	07:59:14	21707	543	-34544	30	T	-a	-0.3848	2.1443	1.1594	319.8	200.0	58.0	15N	25W
-0793 Aug 11	10:11:15	21699	543	-34538	35	P	t-	0.5256	1.9041	0.8832	327.8	191.2	-	18S	62W
-0792 Feb 05	18:25:05	21691	543	-34532	40	T	p-	0.3487	2.2400	1.1968	345.8	212.0	66.4	19N	179E
-0792 Jul 30	22:26:38	21683	543	-34526	45	T-	p-	-0.2341	2.4116	1.4449	321.7	209.0	87.2	21S	114E
-0791 Jan 24	21:24:51	21675	543	-34520	50	N	t-	1.0911	0.9020	-0.1892	272.1	-	-	22N	133E
-0791 Jul 20	14:58:40	21667	542	-34514	55	P	a-	-0.9449	1.0970	0.1510	251.0	82.9	-	23S	134W
-0791 Dec 15	03:01:16	21660	542	-34509	22	N	t-	-1.2284	0.6429	-0.4342	229.9	-	-	22N	45E
-0790 Jun 10	22:25:34	21652	542	-34503	27	P	-a	0.8753	1.2472	0.2568	280.0	112.0	-	21S	112E
-0790 Dec 04	09:51:54	21644	542	-34497	32	P	-p	-0.4874	1.9741	0.9535	323.4	191.9	-	21N	59W
-0789 May 31	06:24:19	21636	542	-34491	37	T+	pp	0.1169	2.6655	1.6220	362.0	229.9	101.9	20S	8W
-0789 Nov 23	23:08:48	21628	541	-34485	42	T+	p-	0.2050	2.4707	1.4928	319.4	207.2	88.6	19N	101E
-0788 May 19	08:04:15	21620	541	-34479	47	P	t-	-0.6594	1.6827	0.6141	340.5	176.9	-	18S	33W
-0788 Nov 12	14:47:16	21612	541	-34473	52	P	a-	0.8656	1.2584	0.2811	267.3	111.5	-	17N	135W
-0787 Apr 08	21:13:44	21605	541	-34468	19	N	t-	1.3511	0.3912	-0.6330	177.6	-	-	3S	133E

-0787	May 08	09:39:14	21604	541	-34467	57	N	t-	-1.3945	0.3222	-0.7233	167.1	-	-	16S	57W
-0787	Oct 03	14:17:29	21597	541	-34462	24	N	-a	-1.2274	0.6281	-0.4160	220.1	-	-	0S	125W
-0786	Mar 29	08:21:04	21589	541	-34456	29	P	-a	0.5453	1.8439	0.8708	307.8	182.8	-	1N	33W
-0786	Sep 22	17:45:37	21581	540	-34450	34	P	-t	-0.5575	1.8796	0.7913	350.4	193.3	-	4S	177W
-0785	Mar 19	00:21:53	21573	540	-34444	39	T-	p-	-0.1916	2.4808	1.5316	315.4	207.6	90.9	4N	87E
-0785	Sep 11	17:16:15	21565	540	-34438	44	T+	pp	0.1473	2.6318	1.5444	373.6	232.0	99.4	8S	169W
-0784	Mar 07	16:45:22	21557	540	-34432	49	P	a-	-0.9174	1.1593	0.1899	262.3	94.1	-	7N	158W
-0784	Aug 30	20:23:33	21549	540	-34426	54	P	h-	0.8560	1.3075	0.2674	297.2	117.6	-	11S	144E
-0783	Jan 26	14:54:18	21542	539	-34421	21	N	-h	1.1072	0.8578	-0.2042	257.6	-	-	22N	129W
-0783	Jul 21	22:13:07	21534	539	-34415	26	N	-a	-1.0710	0.8702	-0.0848	231.6	-	-	23S	117E
-0783	Aug 20	06:56:03	21533	539	-34414	64	N	a-	1.5168	0.0659	-0.9161	70.6	-	-	14S	14W
-0782	Jan 15	16:06:48	21526	539	-34409	31	T	-t	0.4289	2.1210	1.0220	364.2	211.9	24.4	23N	149W
-0782	Jul 11	15:12:22	21518	539	-34403	36	T	-p	-0.3454	2.1975	1.2505	310.6	199.7	69.4	24S	139W
-0781	Jan 04	15:45:56	21510	539	-34397	41	T-	p-	-0.2650	2.4144	1.3299	365.3	223.5	83.7	23N	145W
-0781	Jul 01	06:32:09	21502	539	-34391	46	T	p-	0.4063	2.1030	1.1218	322.2	200.7	52.0	23S	10W
-0781	Dec 24	20:59:50	21494	538	-34385	51	P	a-	-0.9408	1.1482	0.1158	276.9	77.4	-	23N	135E
-0780	May 21	02:57:22	21487	538	-34380	18	Ne	-t	-1.5509	0.0401	-1.0150	61.2	-	-	20S	43E
-0780	Jun 19	16:00:13	21486	538	-34379	56	N	t-	1.2215	0.6341	-0.4002	224.4	-	-	22S	152W
-0780	Nov 13	22:10:31	21479	538	-34374	23	N	-a	1.1354	0.7609	-0.2116	218.0	-	-	18N	114E
-0780	Dec 13	09:08:19	21478	538	-34373	61	N	a-	-1.5532	0.0001	-0.9838	3.3	-	-	21N	48W
-0779	May 10	03:48:39	21471	538	-34368	28	P	-t	-0.8145	1.3974	0.3302	320.2	135.4	-	16S	30E
-0779	Nov 03	13:39:20	21463	538	-34362	33	P	-a	0.4891	1.9530	0.9678	309.1	186.8	-	13N	118W
-0778	Apr 29	06:39:47	21455	538	-34356	38	T-	pp	-0.0299	2.8196	1.7870	357.2	228.8	104.4	12S	12W
-0778	Oct 24	01:32:47	21447	537	-34350	43	T-	p-	-0.2014	2.5058	1.4714	344.4	217.8	91.2	9N	64E
-0777	Apr 18	16:27:08	21439	537	-34344	48	P	a-	0.7298	1.5086	0.5290	293.9	152.3	-	7S	157W
-0777	Oct 13	06:26:07	21431	537	-34338	53	P	t-	-0.9340	1.1875	0.1019	299.6	76.7	-	4N	9W
-0776	Mar 09	00:23:22	21424	537	-34333	20	N	-a	-1.1121	0.7932	-0.1588	220.8	-	-	7N	87E
-0776	Apr 07	07:56:10	21423	537	-34332	58	N	a-	1.4194	0.2269	-0.7200	124.9	-	-	2S	28W
-0776	Sep 01	12:32:22	21416	537	-34327	25	N	-t	1.3464	0.4255	-0.6498	193.5	-	-	10S	99W
-0775	Feb 26	15:57:41	21408	536	-34321	30	T	-a	-0.4246	2.0712	1.0866	318.4	196.8	43.8	11N	146W
-0775	Aug 21	17:44:55	21400	536	-34315	35	P	-h	0.5710	1.8207	0.8001	322.9	184.1	-	15S	177W
-0774	Feb 16	02:08:51	21392	536	-34309	40	T	p-	0.3156	2.3007	1.2575	348.5	215.3	74.6	15N	62E
-0774	Aug 11	06:13:54	21384	536	-34303	45	T-	p-	-0.1823	2.5069	1.5397	322.5	210.7	92.3	18S	4W
-0773	Feb 05	04:55:55	21376	536	-34297	50	N	t-	1.0623	0.9538	-0.1354	278.5	-	-	19N	20E
-0773	Jul 31	22:44:03	21368	536	-34291	55	P	a-	-0.8889	1.2012	0.2525	259.9	105.7	-	22S	109E
-0773	Dec 26	11:11:34	21361	535	-34286	22	N	-t	-1.2316	0.6350	-0.4378	227.8	-	-	23N	78W
-0772	Jun 21	05:27:51	21353	535	-34280	27	P	-a	0.9549	1.1035	0.1084	268.8	74.6	-	23S	6E
-0772	Dec 14	18:29:19	21345	535	-34274	32	P	-p	-0.4869	1.9731	0.9563	322.1	191.5	-	23N	171E
-0771	Jun 10	12:56:05	21337	535	-34268	37	T+	pp	0.2029	2.5093	1.4623	361.3	227.2	94.5	22S	107W
-0771	Dec 04	08:01:24	21329	535	-34262	42	T+	p-	0.2045	2.4709	1.4944	318.9	207.0	88.7	22N	33W

-0770	May 30	14:21:18	21321	534	-34256	47	P	t-	-0.5699	1.8468	0.7784	349.5	193.7	-	21S	129W
-0770	Nov 23	23:39:34	21313	534	-34250	52	P	a-	0.8667	1.2570	0.2781	267.7	111.1	-	20N	91E
-0769	Apr 20	04:12:21	21307	534	-34245	19	N	t-	1.4165	0.2683	-0.7503	148.0	-	-	7S	26E
-0769	May 19	16:13:16	21305	534	-34244	57	N	t-	-1.3091	0.4771	-0.5646	199.7	-	-	19S	157W
-0769	Oct 14	22:25:55	21299	534	-34239	24	N	a-	-1.2454	0.5979	-0.4519	216.3	-	-	4N	111E
-0768	Apr 08	15:50:56	21291	534	-34233	29	P	a-	0.6062	1.7296	0.7616	301.3	173.8	-	4S	148W
-0768	Oct 03	01:24:44	21283	534	-34227	34	P	t-	-0.5831	1.8350	0.7421	349.1	189.0	-	0N	66E
-0767	Mar 29	08:08:13	21275	533	-34221	39	T-	p-	-0.1346	2.5839	1.6376	316.3	209.5	95.3	0S	32W
-0767	Sep 22	00:46:22	21267	533	-34215	44	T+	pp	0.1145	2.6929	1.6036	374.0	232.7	101.5	4S	76E
-0766	Mar 19	00:33:21	21259	533	-34209	49	P	a-	-0.8698	1.2464	0.2774	270.0	112.6	-	3N	83E
-0766	Sep 11	04:07:02	21251	533	-34203	54	P	a-	0.8177	1.3778	0.3377	301.7	130.4	-	7S	26E
-0765	Feb 06	22:38:54	21244	533	-34198	21	N	t-	1.1387	0.7997	-0.2620	250.8	-	-	19N	114E
-0765	Aug 02	05:56:51	21236	532	-34192	26	N	a-	-1.1243	0.7729	-0.1830	220.1	-	-	21S	0E
-0765	Aug 31	14:54:22	21235	532	-34191	64	N	a-	1.4741	0.1444	-0.8379	103.5	-	-	11S	135W
-0764	Jan 26	23:43:21	21228	532	-34186	31	P	t-	0.4539	2.0738	0.9775	362.3	209.1	-	21N	97E
-0764	Jul 21	22:49:53	21220	532	-34180	36	T	a-	-0.4083	2.0838	1.1334	307.9	194.6	52.6	23S	106E
-0763	Jan 14	23:39:11	21212	532	-34174	41	T-	p-	-0.2480	2.4431	1.3635	364.6	224.3	86.7	22N	97E
-0763	Jul 11	13:48:42	21204	532	-34168	46	T	p-	0.3388	2.2296	1.2431	327.4	206.8	70.7	23S	119W
-0762	Jan 04	05:22:43	21196	532	-34162	51	P	a-	-0.9297	1.1659	0.1386	277.3	84.2	-	23N	10E
-0762	Jun 30	22:44:02	21188	531	-34156	56	N	t-	1.1481	0.7711	-0.2681	245.2	-	-	23S	106E
-0762	Nov 25	07:04:23	21182	531	-34151	23	N	a-	1.1349	0.7617	-0.2106	217.9	-	-	21N	20W
-0762	Dec 24	17:54:20	21180	531	-34150	61	N	a-	-1.5471	0.0097	-0.9712	26.7	-	-	22N	180W
-0761	May 21	10:08:01	21174	531	-34145	28	P	t-	-0.9010	1.2379	0.1723	306.4	100.0	-	19S	66W
-0761	Nov 14	22:26:58	21166	531	-34139	33	P	a-	0.4910	1.9511	0.9631	309.8	186.8	-	17N	109E
-0760	May 09	13:23:02	21158	531	-34133	38	T-	pp	-0.1106	2.6692	1.6411	354.7	226.9	101.4	15S	114W
-0760	Nov 03	09:58:58	21150	530	-34127	43	T-	p-	-0.1983	2.5138	1.4747	346.0	218.4	91.6	13N	64W
-0759	Apr 28	23:41:14	21142	530	-34121	48	P	a-	0.6560	1.6416	0.6667	300.4	166.8	-	11S	92E
-0759	Oct 23	14:23:57	21134	530	-34115	53	P	t-	-0.9247	1.2067	0.1167	302.3	82.1	-	8N	130W
-0758	Mar 20	08:16:40	21127	530	-34110	20	N	a-	-1.1620	0.7006	-0.2492	209.6	-	-	2N	34W
-0758	Apr 18	15:30:50	21126	530	-34109	58	N	a-	1.3558	0.3422	-0.6019	151.6	-	-	6S	144W
-0758	Sep 12	19:59:22	21119	530	-34104	25	N	t-	1.3798	0.3649	-0.7117	179.8	-	-	6S	147E
-0757	Mar 09	23:48:15	21111	530	-34098	30	T	a-	-0.4702	1.9873	1.0030	316.4	192.6	8.3	7N	94E
-0757	Sep 02	01:28:07	21103	529	-34092	35	P	a-	0.6094	1.7502	0.7297	318.4	177.3	-	11S	66E
-0756	Feb 27	09:43:33	21095	529	-34086	40	T	pp	0.2757	2.3738	1.3308	351.3	218.8	82.6	12N	54W
-0756	Aug 21	14:08:24	21088	529	-34080	45	T-	p-	-0.1361	2.5922	1.6241	322.9	211.8	95.5	15S	124W
-0755	Feb 15	12:18:06	21080	529	-34074	50	Nx	t-	1.0265	1.0183	-0.0686	286.0	-	-	16N	92W
-0755	Aug 11	06:36:09	21072	529	-34068	55	P	a-	-0.8387	1.2950	0.3430	267.3	121.7	-	19S	10W
-0754	Jan 05	19:16:52	21065	529	-34063	22	N	t-	-1.2392	0.6185	-0.4494	224.4	-	-	22N	161E
-0754	Jul 02	12:33:33	21057	528	-34057	27	N	a-	1.0304	0.9674	-0.0327	256.6	-	-	23S	101W
-0754	Dec 26	03:03:31	21049	528	-34051	32	P	-p	-0.4895	1.9661	0.9536	320.6	190.9	-	23N	43E

-0753	Jun 21	19:29:13	21041	528	-34045	37	T	-t	0.2871	2.3568	1.3060	359.6	222.7	81.8	23S	154E
-0753	Dec 15	16:52:06	21033	528	-34039	42	T+	p-	0.2022	2.4741	1.4995	318.4	206.9	88.9	23N	166W
-0752	Jun 09	20:39:24	21025	528	-34033	47	P	t-	-0.4811	2.0100	0.9412	356.9	206.8	-	23S	136E
-0752	Dec 04	08:30:56	21017	527	-34027	52	P	a-	0.8673	1.2566	0.2766	268.1	111.0	-	22N	42W
-0751	Apr 30	11:06:31	21011	527	-34022	19	N	-t	1.4862	0.1379	-0.8756	106.9	-	-	11S	80W
-0751	May 29	22:47:23	21009	527	-34021	57	N	t-	-1.2221	0.6351	-0.4036	226.1	-	-	21S	103E
-0751	Oct 25	06:40:19	21003	527	-34016	24	N	-a	-1.2580	0.5774	-0.4775	213.9	-	-	9N	15W
-0750	Apr 19	23:15:40	20995	527	-34010	29	P	-a	0.6722	1.6062	0.6428	293.8	162.4	-	8S	99E
-0750	Oct 14	09:11:20	20987	527	-34004	34	P	-t	-0.6022	1.8019	0.7049	348.2	185.7	-	5N	52W
-0749	Apr 09	15:48:19	20979	527	-33998	39	T-	pp	-0.0722	2.6972	1.7531	317.0	210.9	98.2	4S	149W
-0749	Oct 03	08:26:36	20971	526	-33992	44	T+	pp	0.0896	2.7395	1.6486	374.0	232.9	102.7	1N	41W
-0748	Mar 29	08:11:46	20963	526	-33986	49	P	a-	-0.8149	1.3471	0.3783	278.1	129.9	-	1S	34W
-0748	Sep 21	12:01:01	20955	526	-33980	54	P	a-	0.7870	1.4342	0.3941	304.8	139.2	-	3S	94W
-0747	Feb 17	06:13:30	20949	526	-33975	21	N	-t	1.1777	0.7279	-0.3332	241.7	-	-	16N	1W
-0747	Aug 12	13:48:12	20941	526	-33969	26	N	-a	-1.1719	0.6861	-0.2711	209.0	-	-	19S	119W
-0747	Sep 10	23:02:20	20939	526	-33968	64	N	a-	1.4385	0.2100	-0.7729	123.8	-	-	7S	101E
-0746	Feb 06	07:11:23	20933	525	-33963	31	P	-t	0.4859	2.0135	0.9203	359.6	205.1	-	18N	16W
-0746	Aug 02	06:33:52	20925	525	-33957	36	T	-a	-0.4657	1.9804	1.0262	305.2	189.1	24.1	21S	11W
-0745	Jan 26	07:27:39	20917	525	-33951	41	T-	p-	-0.2261	2.4805	1.4063	363.9	225.2	90.0	20N	21W
-0745	Jul 22	21:08:19	20909	525	-33945	46	T	p-	0.2744	2.3504	1.3584	331.9	211.7	82.6	22S	130E
-0744	Jan 15	13:42:42	20901	525	-33939	51	P	a-	-0.9154	1.1893	0.1676	278.1	91.9	-	22N	116W
-0744	Jul 11	05:30:22	20893	525	-33933	56	N	t-	1.0769	0.9043	-0.1400	263.1	-	-	22S	4E
-0744	Dec 05	15:58:21	20886	524	-33928	23	N	-a	1.1344	0.7622	-0.2095	217.9	-	-	23N	154W
-0743	Jan 04	02:36:35	20885	524	-33927	61	N	a-	-1.5380	0.0247	-0.9528	42.5	-	-	22N	50E
-0743	May 31	16:27:47	20879	524	-33922	28	P	-t	-0.9871	1.0793	0.0149	290.6	30.1	-	22S	162W
-0743	Nov 25	07:15:18	20871	524	-33916	33	P	-a	0.4920	1.9503	0.9600	310.6	187.0	-	20N	24W
-0742	May 20	20:08:02	20863	524	-33910	38	T-	pp	-0.1907	2.5201	1.4961	351.3	223.5	95.0	18S	143E
-0742	Nov 14	18:26:07	20855	524	-33904	43	T-	p-	-0.1967	2.5189	1.4757	347.5	219.0	91.8	16N	168E
-0741	May 10	06:55:37	20847	523	-33898	48	P	a-	0.5814	1.7764	0.8057	306.0	178.7	-	15S	19W
-0741	Nov 03	22:25:34	20839	523	-33892	53	P	t-	-0.9187	1.2194	0.1259	304.3	85.3	-	12N	108E
-0740	Mar 30	16:01:47	20832	523	-33887	20	N	-a	-1.2186	0.5959	-0.3522	195.4	-	-	2S	152W
-0740	Apr 28	23:00:29	20831	523	-33886	58	N	a-	1.2877	0.4660	-0.4759	174.6	-	-	10S	101E
-0740	Sep 23	03:36:49	20825	523	-33881	25	N	-t	1.4054	0.3185	-0.7591	168.4	-	-	2S	31E
-0739	Mar 20	07:28:09	20817	523	-33875	30	P	-a	-0.5243	1.8882	0.9037	313.4	186.7	-	3N	23W
-0739	Sep 12	09:22:41	20809	523	-33869	35	P	-a	0.6393	1.6952	0.6748	314.5	171.5	-	7S	54W
-0738	Mar 09	17:05:54	20801	522	-33863	40	T+	pp	0.2264	2.4642	1.4212	354.2	222.4	90.3	8N	166W
-0738	Sep 01	22:13:33	20793	522	-33857	45	T-	p-	-0.0981	2.6624	1.6933	322.9	212.2	97.3	11S	114E
-0737	Feb 26	19:29:54	20785	522	-33851	50	P	t-	0.9825	1.0978	0.0135	294.6	28.6	-	12N	159E
-0737	Aug 22	14:35:14	20777	522	-33845	55	P	a-	-0.7944	1.3780	0.4224	273.5	133.5	-	16S	131W
-0736	Jan 17	03:17:59	20771	522	-33840	22	N	-t	-1.2508	0.5944	-0.4680	219.6	-	-	21N	40E

-0736	Jul 12	19:40:53	20763	521	-33834	27	N	-a	1.1033	0.8366	-0.1692	243.1	-	-	22S	151E
-0736	Aug 11	05:48:22	20761	521	-33833	65	Nb	a-	-1.5396	0.0258	-0.9599	44.6	-	-	19S	0E
-0735	Jan 05	11:34:22	20755	521	-33828	32	P	-a	-0.4958	1.9520	0.9445	318.8	189.8	-	23N	85W
-0735	Jul 02	02:03:26	20747	521	-33822	37	T	-t	0.3696	2.2077	1.1526	356.9	216.4	61.1	23S	55E
-0735	Dec 26	01:40:55	20739	521	-33816	42	T+	p-	0.1982	2.4803	1.5080	318.0	207.0	89.3	24N	62E
-0734	Jun 21	03:00:09	20731	521	-33810	47	T	t-	-0.3937	2.1705	1.1012	362.8	216.8	51.2	24S	40E
-0734	Dec 15	17:20:50	20723	521	-33804	52	P	a-	0.8670	1.2575	0.2766	268.6	111.2	-	24N	174W
-0733	May 11	18:01:00	20717	520	-33799	19	Ne	-t	1.5563	0.0068	-1.0019	24.0	-	-	14S	175E
-0733	Jun 10	05:25:03	20715	520	-33798	57	N	t-	-1.1366	0.7905	-0.2454	247.5	-	-	23S	3E
-0733	Nov 05	14:58:22	20709	520	-33793	24	N	-a	-1.2669	0.5634	-0.4961	212.4	-	-	13N	141W
-0732	Apr 30	06:37:09	20701	520	-33787	29	P	-a	0.7415	1.4769	0.5175	285.1	148.2	-	11S	14W
-0732	Oct 24	17:03:49	20693	520	-33781	34	P	-t	-0.6162	1.7780	0.6776	347.7	183.1	-	9N	172W
-0731	Apr 19	23:23:19	20685	520	-33775	39	T-	pp	-0.0056	2.8186	1.8762	317.2	211.5	99.4	8S	95E
-0731	Oct 13	16:14:52	20677	519	-33769	44	T+	pp	0.0707	2.7746	1.6828	373.8	232.9	103.3	5N	160W
-0730	Apr 09	15:43:28	20669	519	-33763	49	P	a-	-0.7550	1.4572	0.4880	286.4	145.5	-	5S	149W
-0730	Oct 02	20:04:50	20662	519	-33757	54	P	a-	0.7636	1.4770	0.4373	306.8	145.2	-	1N	143E
-0729	Feb 28	13:37:55	20655	519	-33752	21	N	-t	1.2241	0.6425	-0.4180	229.5	-	-	12N	114W
-0729	Aug 23	21:47:32	20647	519	-33746	26	N	-a	-1.2136	0.6105	-0.3483	198.4	-	-	16S	120E
-0729	Sep 22	07:18:46	20646	519	-33745	64	N	a-	1.4092	0.2640	-0.7193	137.8	-	-	2S	25W
-0728	Feb 17	14:29:53	20639	519	-33740	31	P	-t	0.5256	1.9388	0.8490	356.1	199.7	-	15N	127W
-0728	Aug 12	14:24:41	20631	518	-33734	36	P	-a	-0.5172	1.8880	0.9295	302.4	183.4	-	18S	129W
-0727	Feb 05	15:06:28	20623	518	-33728	41	T-	p-	-0.1955	2.5336	1.4653	363.3	226.3	93.9	18N	136W
-0727	Aug 02	04:34:21	20616	518	-33722	46	T+	pp	0.2162	2.4603	1.4622	335.6	215.4	90.3	20S	18E
-0726	Jan 25	21:55:14	20608	518	-33716	51	P	a-	-0.8940	1.2256	0.2098	279.9	101.9	-	20N	121E
-0726	Jul 22	12:21:42	20600	518	-33710	56	Nx	t-	1.0103	1.0293	-0.0205	278.2	-	-	21S	100W
-0726	Dec 17	00:50:11	20593	518	-33705	23	N	-a	1.1362	0.7584	-0.2122	217.3	-	-	24N	73E
-0725	Jan 15	11:12:56	20592	517	-33704	61	N	a-	-1.5240	0.0485	-0.9252	59.3	-	-	21N	80W
-0725	Jun 11	22:49:07	20585	517	-33699	28	N	-t	-1.0721	0.9229	-0.1406	272.7	-	-	23S	101E
-0725	Dec 06	16:04:08	20578	517	-33693	33	P	-a	0.4923	1.9508	0.9586	311.4	187.3	-	22N	157W
-0724	May 31	02:51:46	20570	517	-33687	38	T	pp	-0.2730	2.3674	1.3469	347.0	218.5	84.0	21S	41E
-0724	Nov 25	02:55:41	20562	517	-33681	43	T-	pp	-0.1978	2.5186	1.4720	348.9	219.5	91.8	19N	40E
-0723	May 20	14:07:43	20554	517	-33675	48	P	a-	0.5037	1.9171	0.9499	310.9	188.6	-	18S	128W
-0723	Nov 14	06:30:31	20546	516	-33669	53	P	t-	-0.9158	1.2262	0.1298	305.7	86.7	-	16N	15W
-0722	Apr 10	23:40:48	20540	516	-33664	20	N	-a	-1.2801	0.4824	-0.4644	177.9	-	-	6S	91E
-0722	May 10	06:27:43	20538	516	-33663	58	N	a-	1.2174	0.5943	-0.3461	194.5	-	-	14S	13W
-0722	Oct 04	11:24:18	20532	516	-33658	25	N	-t	1.4237	0.2852	-0.7930	159.5	-	-	3N	88W
-0722	Nov 03	05:33:26	20530	516	-33657	63	N	t-	-1.5823	0.0061	-1.0959	24.5	-	-	12N	0W
-0721	Mar 31	15:00:59	20524	516	-33652	30	P	-a	-0.5833	1.7801	0.7953	309.6	179.1	-	1S	138W
-0721	Sep 23	17:25:36	20516	516	-33646	35	P	-a	0.6633	1.6512	0.6310	311.0	166.5	-	2S	177W
-0720	Mar 20	00:19:58	20508	516	-33640	40	T+	pp	0.1712	2.5655	1.5225	356.9	225.6	96.7	3N	83E

-0720	Sep 12	06:26:34	20500	515	-33634	45	T-	p-	-0.0665	2.7209	1.7506	322.8	212.3	98.2	7S	12W
-0719	Mar 09	02:31:44	20493	515	-33628	50	P	t-	0.9307	1.1915	0.1099	303.8	80.7	-	8N	51E
-0719	Sep 01	22:42:39	20485	515	-33622	55	P	a-	-0.7574	1.4477	0.4884	278.5	142.2	-	12S	105E
-0718	Jan 27	11:12:17	20478	515	-33617	22	N	t-	-1.2683	0.5594	-0.4971	212.8	-	-	19N	79W
-0718	Jul 24	02:53:32	20470	515	-33611	27	N	a-	1.1707	0.7159	-0.2959	228.7	-	-	21S	42E
-0718	Aug 22	13:33:36	20469	515	-33610	65	N	a-	-1.5001	0.1013	-0.8903	88.3	-	-	16S	117W
-0717	Jan 16	19:59:17	20463	514	-33605	32	P	a-	-0.5076	1.9279	0.9255	316.5	188.1	-	22N	149E
-0717	Jul 13	08:42:35	20455	514	-33599	37	T	t-	0.4470	2.0678	1.0083	353.4	208.6	14.9	23S	46W
-0716	Jan 06	10:24:37	20447	514	-33593	42	T+	p-	0.1899	2.4943	1.5247	317.8	207.3	90.2	24N	69W
-0716	Jul 01	09:24:37	20439	514	-33587	47	T	t-	-0.3091	2.3262	1.2559	367.2	224.2	77.2	24S	57W
-0716	Dec 26	02:06:50	20431	514	-33581	52	P	a-	0.8643	1.2627	0.2816	269.5	112.3	-	25N	54E
-0715	Jun 20	12:06:44	20423	514	-33575	57	N	t-	-1.0533	0.9424	-0.0913	265.0	-	-	24S	98W
-0715	Nov 15	23:18:24	20417	513	-33570	24	N	a-	-1.2733	0.5536	-0.5098	211.5	-	-	16N	93E
-0714	May 11	13:56:42	20409	513	-33564	29	P	a-	0.8129	1.3442	0.3882	275.4	130.6	-	15S	126W
-0714	Nov 05	01:02:09	20401	513	-33558	34	P	t-	-0.6247	1.7638	0.6607	347.5	181.5	-	13N	67E
-0713	May 01	06:53:26	20393	513	-33552	39	T+	pp	0.0651	2.7089	1.7676	317.0	211.2	98.6	12S	20W
-0713	Oct 25	00:11:17	20386	513	-33546	44	T+	pp	0.0580	2.7981	1.7058	373.3	232.7	103.6	9N	79E
-0712	Apr 19	23:07:35	20378	512	-33540	49	P	a-	-0.6895	1.5777	0.6076	294.6	159.8	-	9S	97E
-0712	Oct 13	04:18:08	20370	512	-33534	54	P	a-	0.7468	1.5074	0.4683	307.9	149.1	-	6N	18E
-0711	Mar 10	20:50:54	20363	512	-33529	21	N	t-	1.2789	0.5416	-0.5182	213.3	-	-	8N	136E
-0711	Apr 09	10:11:27	20362	512	-33528	59	N	t-	-1.5044	0.1107	-0.9151	97.1	-	-	6S	68W
-0711	Sep 03	05:56:12	20356	512	-33523	26	N	a-	-1.2482	0.5479	-0.4128	189.0	-	-	12S	3W
-0711	Oct 02	15:44:49	20354	512	-33522	64	N	a-	1.3871	0.3048	-0.6790	147.2	-	-	2N	154W
-0710	Feb 27	21:39:39	20348	512	-33517	31	P	t-	0.5726	1.8508	0.7646	351.4	192.3	-	11N	124E
-0710	Aug 23	22:22:19	20340	512	-33511	36	P	a-	-0.5628	1.8067	0.8437	299.8	177.6	-	15S	110E
-0709	Feb 16	22:39:42	20332	511	-33505	41	T-	pp	-0.1595	2.5967	1.5344	362.6	227.5	97.6	15N	109E
-0709	Aug 13	12:05:41	20324	511	-33499	46	T+	pp	0.1631	2.5609	1.5565	338.8	218.1	95.5	17S	96W
-0708	Feb 06	06:02:07	20317	511	-33493	51	P	a-	-0.8672	1.2716	0.2619	282.4	112.7	-	17N	2W
-0708	Aug 01	19:17:30	20309	511	-33487	56	P	t-	0.9477	1.1472	0.0916	291.3	72.3	-	19S	156E
-0708	Dec 27	09:39:18	20302	511	-33482	23	N	a-	1.1405	0.7498	-0.2193	216.2	-	-	25N	59W
-0707	Jan 25	19:43:31	20301	511	-33481	61	N	a-	-1.5052	0.0810	-0.8887	76.3	-	-	19N	152E
-0707	Jun 22	05:14:30	20294	510	-33476	28	N	t-	-1.1540	0.7725	-0.2906	252.9	-	-	25S	5E
-0707	Dec 17	00:49:13	20287	510	-33470	33	P	a-	0.4954	1.9457	0.9522	312.0	187.2	-	24N	72E
-0706	Jun 11	09:40:37	20279	510	-33464	38	T	-p	-0.3521	2.2207	1.2032	341.8	212.0	67.5	23S	63W
-0706	Dec 06	11:23:13	20271	510	-33458	43	T-	pp	-0.1974	2.5206	1.4712	350.3	220.1	91.9	22N	88W
-0705	May 31	21:21:31	20263	510	-33452	48	T	a-	0.4266	2.0573	1.0930	314.8	196.6	45.3	20S	122E
-0705	Nov 25	14:36:10	20255	510	-33446	53	P	t-	-0.9137	1.2312	0.1328	306.8	87.8	-	19N	137W
-0704	Apr 21	07:13:44	20249	509	-33441	20	N	a-	-1.3465	0.3603	-0.5858	155.7	-	-	10S	25W
-0704	May 20	13:52:50	20248	509	-33440	58	N	a-	1.1448	0.7270	-0.2125	212.2	-	-	17S	126W
-0704	Oct 14	19:20:42	20241	509	-33435	25	N	t-	1.4353	0.2641	-0.8144	153.4	-	-	7N	151E

-0704	Nov 13	13:35:05	20240	509	-33434	63	N	t-	-1.5758	0.0181	-1.0839	42.0	-	-	15N	122W
-0703	Apr 10	22:23:38	20233	509	-33429	30	P	-a	-0.6499	1.6584	0.6726	304.5	168.6	-	6S	109E
-0703	Oct 04	01:39:26	20226	509	-33423	35	P	-a	0.6791	1.6220	0.6022	308.4	162.9	-	2N	57E
-0702	Mar 31	07:23:12	20218	509	-33417	40	T+	pp	0.1080	2.6817	1.6384	359.3	228.3	101.6	1S	25W
-0702	Sep 23	14:48:42	20210	508	-33411	45	T-	p-	-0.0421	2.7664	1.7948	322.5	212.2	98.5	3S	139W
-0701	Mar 20	09:24:05	20202	508	-33405	50	P	t-	0.8710	1.2996	0.2206	313.5	112.6	-	4N	54W
-0701	Sep 13	06:58:02	20194	508	-33399	55	P	a-	-0.7272	1.5051	0.5418	282.6	148.7	-	8S	21W
-0700	Feb 07	18:59:40	20188	508	-33394	22	N	-t	-1.2921	0.5125	-0.5377	203.7	-	-	16N	164E
-0700	Mar 08	09:55:15	20187	508	-33393	60	Nb	t-	1.5727	0.0056	-1.0603	22.8	-	-	9N	61W
-0700	Aug 03	10:10:09	20180	508	-33388	27	N	-a	1.2338	0.6033	-0.4148	213.3	-	-	19S	68W
-0700	Sep 01	21:25:44	20179	508	-33387	65	N	a-	-1.4666	0.1660	-0.8319	112.8	-	-	12S	123E

7TH CENTURY BCE

**In the 7th century BCE the total number of lunar eclipses was 253 lunar eclipses:
 91 penumbral lunar eclipses, 102 partial lunar eclipses, 60 total lunar eclipses
 (50 central total lunar eclipses, 10 non-central total lunar eclipses).**

CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN	
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG	
GREATEST																
ECLIPSE																
-0699	Jan 27	04:19:00	20172	508	-33382	32	P	-a	-0.5245	1.8940	0.8972	313.8	185.6	-	20N	23E
-0699	Jul 23	15:26:12	20165	507	-33376	37	P	-t	0.5201	1.9362	0.8718	349.2	199.3	-	21S	147W
-0698	Jan 16	19:03:12	20157	507	-33370	42	T+	p-	0.1770	2.5165	1.5498	317.6	207.7	91.4	22N	162E
-0698	Jul 12	15:55:26	20149	507	-33364	47	T-	pp	-0.2293	2.4734	1.4018	370.3	229.3	91.4	24S	155W
-0697	Jan 06	10:49:16	20141	507	-33358	52	P	a-	0.8590	1.2722	0.2912	270.7	114.2	-	24N	76W
-0697	Jul 01	18:53:24	20133	507	-33352	57	P	t-	-0.9725	1.0897	0.0578	279.6	56.8	-	25S	160E
-0697	Nov 27	07:39:34	20127	506	-33347	24	N	-a	-1.2782	0.5463	-0.5203	211.0	-	-	19N	33W
-0696	May 21	21:15:51	20119	506	-33341	29	P	-a	0.8852	1.2103	0.2570	264.6	108.1	-	18S	123E
-0696	Nov 15	09:02:54	20111	506	-33335	34	P	-t	-0.6313	1.7525	0.6476	347.3	180.2	-	17N	54W

-0695	May 11	14:20:36	20104	506	-33329	39	T+	-p	0.1385	2.5740	1.6332	316.1	209.9	95.4	16S	133W
-0695	Nov 04	08:13:34	20096	506	-33323	44	T+	pp	0.0494	2.8138	1.7218	372.7	232.4	103.6	13N	43W
-0694	May 01	06:27:16	20088	505	-33317	49	P	a-	-0.6207	1.7047	0.7332	302.5	172.5	-	13S	15W
-0694	Oct 24	12:37:41	20080	505	-33311	54	P	a-	0.7343	1.5299	0.4919	308.3	151.8	-	10N	109W
-0693	Mar 22	03:54:23	20074	505	-33306	21	N	-t	1.3404	0.4284	-0.6309	192.2	-	-	4N	28E
-0693	Apr 20	17:09:01	20073	505	-33305	59	N	t-	-1.4390	0.2313	-0.7959	139.4	-	-	10S	175W
-0693	Sep 14	14:13:07	20066	505	-33300	26	N	-a	-1.2768	0.4965	-0.4662	180.7	-	-	8S	129W
-0693	Oct 14	00:18:01	20065	505	-33299	64	N	a-	1.3703	0.3358	-0.6483	153.7	-	-	6N	76E
-0692	Mar 10	04:38:36	20058	505	-33294	31	P	-t	0.6284	1.7466	0.6641	345.4	182.3	-	7N	18E
-0692	Sep 03	06:27:53	20051	505	-33288	36	P	-a	-0.6015	1.7380	0.7703	297.5	172.0	-	11S	13W
-0691	Feb 27	06:03:11	20043	504	-33282	41	T-	pp	-0.1146	2.6759	1.6200	361.7	228.5	100.9	11N	3W
-0691	Aug 23	19:44:47	20035	504	-33276	46	T+	pp	0.1172	2.6485	1.6375	341.5	220.0	98.6	14S	148E
-0690	Feb 16	14:00:16	20027	504	-33270	51	P	a-	-0.8323	1.3325	0.3292	285.8	124.7	-	14N	122W
-0690	Aug 13	02:21:15	20020	504	-33264	56	P	t-	0.8918	1.2527	0.1912	302.1	103.3	-	17S	49E
-0689	Jan 07	18:24:05	20013	504	-33259	23	N	-a	1.1488	0.7336	-0.2337	214.2	-	-	25N	170E
-0689	Feb 06	04:07:10	20012	504	-33258	61	N	a-	-1.4805	0.1241	-0.8415	93.8	-	-	17N	26E
-0689	Jul 03	11:43:29	20005	503	-33253	28	N	-t	-1.2332	0.6271	-0.4359	230.8	-	-	25S	93W
-0689	Dec 28	09:31:58	19998	503	-33247	33	P	-a	0.5002	1.9373	0.9429	312.5	187.1	-	24N	58W
-0688	Jun 21	16:32:01	19990	503	-33241	38	T	-t	-0.4304	2.0758	1.0608	335.8	204.0	38.5	24S	166W
-0688	Dec 16	19:48:45	19982	503	-33235	43	T-	pp	-0.1963	2.5237	1.4722	351.6	220.7	92.2	23N	146E
-0687	Jun 11	04:36:28	19974	503	-33229	48	T	a-	0.3495	2.1977	1.2356	318.0	202.8	68.7	22S	12E
-0687	Dec 05	22:42:15	19967	502	-33223	53	P	t-	-0.9119	1.2350	0.1354	307.6	88.8	-	21N	101E
-0686	May 02	14:42:50	19960	502	-33218	20	N	-a	-1.4155	0.2336	-0.7125	127.0	-	-	14S	139W
-0686	May 31	21:18:01	19959	502	-33217	58	N	a-	1.0722	0.8601	-0.0793	227.7	-	-	20S	122E
-0686	Oct 26	03:23:54	19953	502	-33212	25	N	-t	1.4422	0.2512	-0.8269	149.5	-	-	11N	29E
-0686	Nov 24	21:39:11	19951	502	-33211	63	N	t-	-1.5705	0.0273	-1.0738	51.5	-	-	18N	116E
-0685	Apr 22	05:41:09	19945	502	-33206	30	P	-a	-0.7199	1.5307	0.5435	298.2	155.3	-	10S	3W
-0685	Oct 15	10:00:38	19937	502	-33200	35	P	-a	0.6897	1.6021	0.5829	306.2	160.3	-	6N	70W
-0684	Apr 10	14:17:50	19929	501	-33194	40	T+	pp	0.0385	2.8095	1.7657	361.2	230.2	104.5	5S	131W
-0684	Oct 03	23:18:29	19922	501	-33188	45	T-	pp	-0.0237	2.8007	1.8281	322.2	211.9	98.6	1N	92E
-0683	Mar 30	16:08:08	19914	501	-33182	50	P	t-	0.8044	1.4205	0.3440	323.3	138.1	-	0S	157W
-0683	Sep 23	15:21:02	19906	501	-33176	55	P	a-	-0.7036	1.5504	0.5832	285.8	153.4	-	3S	148W
-0682	Feb 18	02:39:10	19900	501	-33171	22	N	-t	-1.3229	0.4528	-0.5909	191.7	-	-	13N	47E
-0682	Mar 19	16:57:43	19898	501	-33170	60	N	t-	1.5138	0.1107	-0.9495	100.6	-	-	5N	168W
-0682	Aug 14	17:34:33	19892	501	-33165	27	N	-a	1.2895	0.5043	-0.5202	197.9	-	-	16S	180E
-0682	Sep 13	05:26:01	19891	501	-33164	65	N	a-	-1.4401	0.2178	-0.7863	129.2	-	-	8S	1E
-0681	Feb 07	12:31:39	19884	500	-33159	32	P	-a	-0.5478	1.8484	0.8572	310.6	182.3	-	17N	101W
-0681	Aug 03	22:15:59	19877	500	-33153	37	P	-t	0.5873	1.8154	0.7460	344.6	188.8	-	19S	109E
-0680	Jan 28	03:34:50	19869	500	-33147	42	T+	p-	0.1583	2.5491	1.5856	317.6	208.4	92.9	20N	33E
-0680	Jul 22	22:33:37	19861	500	-33141	47	T-	pp	-0.1553	2.6098	1.5367	372.3	232.5	99.6	22S	105E

-0679	Jan 16	19:23:34	19853	500	-33135	52	P	a-	0.8479	1.2925	0.3119	272.7	118.1	-	23N	155E
-0679	Jul 12	01:47:42	19846	499	-33129	57	P	t-	-0.8968	1.2279	0.1973	291.3	102.6	-	24S	55E
-0679	Dec 07	15:59:15	19839	499	-33124	24	N	-a	-1.2833	0.5381	-0.5308	210.3	-	-	21N	158W
-0678	Jun 02	04:35:26	19831	499	-33118	29	P	-a	0.9576	1.0763	0.1250	252.6	76.6	-	20S	12E
-0678	Nov 26	17:05:19	19824	499	-33112	34	P	-t	-0.6363	1.7439	0.6379	347.2	179.3	-	19N	176W
-0677	May 22	21:45:17	19816	499	-33106	39	T+	-p	0.2137	2.4361	1.4951	314.6	207.3	89.4	18S	114E
-0677	Nov 15	16:21:20	19808	498	-33100	44	T+	pp	0.0447	2.8218	1.7308	371.9	232.0	103.6	17N	166W
-0676	May 11	13:39:42	19801	498	-33094	49	P	a-	-0.5467	1.8415	0.8680	310.1	184.0	-	16S	124W
-0676	Nov 03	21:04:41	19793	498	-33088	54	P	a-	0.7271	1.5423	0.5059	308.0	153.2	-	14N	123E
-0675	Apr 01	10:47:43	19787	498	-33083	21	N	-t	1.4089	0.3026	-0.7563	163.8	-	-	0S	77W
-0675	Apr 30	23:58:47	19785	498	-33082	59	N	t-	-1.3682	0.3622	-0.6668	172.9	-	-	14S	81E
-0675	Sep 24	22:38:29	19779	498	-33077	26	N	-a	-1.2988	0.4570	-0.5076	173.9	-	-	3S	102E
-0675	Oct 24	08:58:02	19778	498	-33076	64	N	a-	1.3588	0.3567	-0.6273	157.8	-	-	11N	56W
-0674	Mar 21	11:29:51	19771	498	-33071	31	P	-t	0.6903	1.6312	0.5524	338.0	169.3	-	3N	87W
-0674	Sep 14	14:41:02	19763	497	-33065	36	P	-a	-0.6334	1.6819	0.7095	295.6	167.0	-	7S	138W
-0673	Mar 10	13:21:09	19756	497	-33059	41	T-	pp	-0.0642	2.7651	1.7155	360.7	229.1	103.3	7N	114W
-0673	Sep 04	03:29:26	19748	497	-33053	46	T+	pp	0.0767	2.7261	1.7086	343.8	221.4	100.6	10S	30E
-0672	Feb 27	21:52:49	19740	497	-33047	51	P	a-	-0.7919	1.4035	0.4065	289.6	136.6	-	10N	118E
-0672	Aug 23	09:31:43	19733	497	-33041	56	P	t-	0.8416	1.3478	0.2803	311.3	123.7	-	14S	60W
-0671	Jan 18	03:02:15	19726	496	-33036	23	N	-a	1.1627	0.7070	-0.2582	210.8	-	-	23N	41E
-0671	Feb 16	12:22:36	19725	496	-33035	61	N	a-	-1.4491	0.1796	-0.7818	112.1	-	-	13N	99W
-0671	Jul 13	18:20:03	19719	496	-33030	28	N	t-	-1.3064	0.4928	-0.5705	206.9	-	-	24S	167E
-0671	Aug 12	09:59:19	19717	496	-33029	66	Nb	t-	1.5753	0.0090	-1.0732	29.7	-	-	16S	67W
-0670	Jan 07	18:08:16	19711	496	-33024	33	P	-a	0.5102	1.9193	0.9244	312.6	186.3	-	24N	173E
-0670	Jul 02	23:30:28	19703	496	-33018	38	P	-t	-0.5037	1.9404	0.9274	329.3	194.8	-	24S	89E
-0670	Dec 28	04:08:27	19695	496	-33012	43	T-	pp	-0.1910	2.5343	1.4813	352.9	221.6	93.0	24N	21E
-0669	Jun 22	11:55:45	19688	495	-33006	48	T	p-	0.2750	2.3334	1.3729	320.2	207.3	82.3	23S	98W
-0669	Dec 17	06:45:02	19680	495	-33000	53	P	t-	-0.9078	1.2427	0.1427	308.8	91.2	-	22N	19W
-0668	May 12	22:06:40	19674	495	-32995	20	Ne	-a	-1.4884	0.1000	-0.8466	84.3	-	-	18S	108E
-0668	Jun 11	04:42:40	19672	495	-32994	58	P	a-	0.9990	0.9946	0.0547	241.4	50.6	-	21S	9E
-0668	Nov 05	11:33:51	19666	495	-32989	25	N	-t	1.4444	0.2467	-0.8303	147.8	-	-	15N	95W
-0668	Dec 05	05:44:07	19665	495	-32988	63	N	t-	-1.5654	0.0359	-1.0634	58.9	-	-	20N	5W
-0667	May 02	12:51:02	19658	495	-32983	30	P	-a	-0.7954	1.3931	0.4040	290.3	137.2	-	14S	112W
-0667	Oct 25	18:29:31	19651	494	-32977	35	P	-a	0.6949	1.5920	0.5739	304.7	158.8	-	11N	161E
-0666	Apr 21	21:04:11	19643	494	-32971	40	T-	pp	-0.0372	2.8124	1.7676	362.4	230.8	104.8	9S	125E
-0666	Oct 15	07:56:34	19635	494	-32965	45	T-	pp	-0.0116	2.8234	1.8498	321.8	211.7	98.5	6N	40W
-0665	Apr 10	22:44:01	19628	494	-32959	50	P	t-	0.7311	1.5540	0.4799	332.8	159.8	-	4S	102E
-0665	Oct 04	23:51:26	19620	494	-32953	55	P	a-	-0.6865	1.5838	0.6128	288.3	156.6	-	1N	82E
-0664	Feb 29	10:11:58	19614	494	-32948	22	N	t-	-1.3596	0.3821	-0.6550	176.4	-	-	9N	67W
-0664	Mar 29	23:53:11	19612	494	-32947	60	N	t-	1.4482	0.2283	-0.8263	142.4	-	-	1N	86E

-0664	Aug 25	01:05:16	19606	493	-32942	27	N	-a	1.3388	0.4172	-0.6140	182.4	-	-	12S	66E
-0664	Sep 23	13:33:44	19605	493	-32941	65	N	a-	-1.4204	0.2569	-0.7532	140.4	-	-	4S	122W
-0663	Feb 17	20:36:49	19598	493	-32936	32	P	-a	-0.5779	1.7901	0.8049	306.7	177.8	-	14N	137E
-0663	Aug 14	05:13:21	19591	493	-32930	37	P	-t	0.6474	1.7077	0.6331	339.8	177.6	-	17S	4E
-0662	Feb 07	12:00:17	19583	493	-32924	42	T+	p-	0.1345	2.5911	1.6308	317.6	209.1	94.6	18N	94W
-0662	Aug 03	05:19:18	19575	493	-32918	47	T-	pp	-0.0871	2.7359	1.6611	373.3	234.2	104.0	20S	2E
-0661	Jan 28	03:52:01	19567	492	-32912	52	P	a-	0.8324	1.3205	0.3404	275.3	123.1	-	21N	28E
-0661	Jul 23	08:49:19	19560	492	-32906	57	P	h-	-0.8261	1.3573	0.3276	300.7	129.2	-	23S	50W
-0661	Dec 19	00:16:15	19553	492	-32901	24	N	-h	-1.2901	0.5266	-0.5441	208.9	-	-	22N	78E
-0660	Jun 12	11:56:10	19546	492	-32895	29	N	-a	1.0296	0.9435	-0.0063	239.3	-	-	22S	99W
-0660	Jul 11	19:39:52	19545	492	-32894	67	Nb	a-	-1.5133	0.0678	-0.9053	71.6	-	-	25S	146E
-0660	Dec 07	01:07:08	19538	492	-32889	34	P	-t	-0.6416	1.7344	0.6282	346.8	178.3	-	22N	64E
-0659	Jun 02	05:09:52	19531	491	-32883	39	T	-p	0.2889	2.2986	1.3567	312.4	203.5	79.9	21S	2E
-0659	Nov 26	00:30:02	19523	491	-32877	44	T+	pp	0.0403	2.8289	1.7398	371.0	231.7	103.6	20N	72E
-0658	May 22	20:50:51	19515	491	-32871	49	T	a-	-0.4723	1.9794	1.0031	316.9	193.7	8.6	19S	126E
-0658	Nov 15	05:35:31	19508	491	-32865	54	P	a-	0.7226	1.5495	0.5152	307.4	153.9	-	18N	6W
-0657	Apr 12	17:32:50	19501	491	-32860	21	N	-t	1.4829	0.1668	-0.8920	123.4	-	-	5S	179E
-0657	May 12	06:43:24	19500	491	-32859	59	N	t-	-1.2937	0.5001	-0.5312	201.3	-	-	17S	22W
-0657	Oct 06	07:11:06	19494	491	-32854	26	N	-a	-1.3155	0.4274	-0.5392	168.6	-	-	1N	28W
-0657	Nov 04	17:43:01	19492	490	-32853	64	N	a-	1.3511	0.3707	-0.6129	160.3	-	-	15N	172E
-0656	Mar 31	18:12:19	19486	490	-32848	31	P	-t	0.7593	1.5027	0.4276	328.9	151.9	-	1S	170E
-0656	Sep 24	23:02:16	19478	490	-32842	36	P	-a	-0.6585	1.6382	0.6610	294.2	162.8	-	3S	95E
-0655	Mar 20	20:29:47	19471	490	-32836	41	T-	pp	-0.0051	2.8705	1.8272	359.2	229.0	104.3	3N	136E
-0655	Sep 14	11:23:12	19463	490	-32830	46	T+	pp	0.0444	2.7886	1.7646	345.9	222.3	101.5	6S	90W
-0654	Mar 10	05:37:22	19455	490	-32824	51	P	a-	-0.7437	1.4887	0.4979	293.9	148.7	-	6N	0W
-0654	Sep 03	16:50:04	19448	489	-32818	56	P	t-	0.7982	1.4304	0.3571	318.9	138.3	-	10S	172W
-0653	Jan 29	11:33:58	19441	489	-32813	23	N	-a	1.1822	0.6701	-0.2928	205.9	-	-	21N	88W
-0653	Feb 27	20:30:47	19440	489	-32812	61	N	a-	-1.4116	0.2464	-0.7110	130.3	-	-	10N	137E
-0653	Jul 25	01:03:35	19434	489	-32807	28	N	t-	-1.3746	0.3681	-0.6957	180.6	-	-	23S	66E
-0653	Aug 23	16:59:14	19432	489	-32806	66	N	t-	1.5208	0.1105	-0.9746	102.9	-	-	13S	174W
-0652	Jan 19	02:38:31	19426	489	-32801	33	P	-a	0.5246	1.8929	0.8979	312.3	184.9	-	22N	45E
-0652	Jul 13	06:34:07	19418	489	-32795	38	P	-t	-0.5736	1.8113	0.7998	322.3	184.4	-	24S	18W
-0651	Jan 07	12:23:05	19411	488	-32789	43	T-	pp	-0.1821	2.5510	1.4970	354.3	222.6	94.1	23N	102W
-0651	Jul 02	19:19:11	19403	488	-32783	48	T+	p-	0.2034	2.4643	1.5048	321.7	210.5	90.9	24S	150E
-0651	Dec 27	14:43:51	19396	488	-32777	53	P	t-	-0.9006	1.2557	0.1560	310.3	95.3	-	23N	139W
-0650	Jun 22	12:10:29	19388	488	-32771	58	P	a-	0.9283	1.1249	0.1838	253.2	91.1	-	23S	103W
-0650	Nov 16	19:48:33	19382	488	-32766	25	N	-t	1.4437	0.2470	-0.8283	147.4	-	-	19N	141E
-0650	Dec 16	13:48:55	19380	488	-32765	63	N	t-	-1.5593	0.0459	-1.0510	66.4	-	-	22N	127W
-0649	May 13	19:56:45	19374	488	-32760	30	P	-a	-0.8732	1.2516	0.2600	280.8	112.8	-	17S	139E
-0649	Nov 06	03:03:37	19366	487	-32754	35	P	-a	0.6967	1.5880	0.5713	303.4	158.1	-	15N	32E

-0648	May 02	03:44:38	19359	487	-32748	40	T-	pp	-0.1170	2.6666	1.6205	362.6	230.0	101.9	13S	23E
-0648	Oct 25	16:40:10	19351	487	-32742	45	T-	pp	-0.0040	2.8376	1.8634	321.5	211.4	98.4	10N	172W
-0647	Apr 21	05:13:42	19343	487	-32736	50	P	t-	0.6524	1.6972	0.6252	341.7	178.1	-	9S	2E
-0647	Oct 15	08:28:24	19336	487	-32730	55	P	a-	-0.6751	1.6065	0.6319	290.1	158.8	-	5N	49W
-0646	Mar 11	17:37:27	19329	486	-32725	22	N	-t	-1.4027	0.2997	-0.7308	156.7	-	-	5N	179E
-0646	Apr 10	06:43:44	19328	486	-32724	60	N	t-	1.3776	0.3552	-0.6940	174.9	-	-	4S	19W
-0646	Sep 05	08:42:57	19322	486	-32719	27	N	-a	1.3814	0.3424	-0.6955	167.2	-	-	9S	51W
-0646	Oct 04	21:47:16	19321	486	-32718	65	N	a-	-1.4061	0.2861	-0.7299	148.4	-	-	0N	112E
-0645	Mar 01	04:34:40	19314	486	-32713	32	P	-a	-0.6148	1.7197	0.7401	302.0	172.0	-	10N	16E
-0645	Aug 25	12:18:42	19307	486	-32707	37	P	-t	0.7003	1.6133	0.5336	335.0	165.9	-	13S	104W
-0644	Feb 18	20:16:02	19299	486	-32701	42	T+	p-	0.1025	2.6482	1.6912	317.8	209.9	96.4	14N	141E
-0644	Aug 13	12:14:31	19291	485	-32695	47	T-	pp	-0.0262	2.8486	1.7720	373.5	234.6	105.6	17S	103W
-0643	Feb 07	12:10:25	19284	485	-32689	52	P	a-	0.8093	1.3626	0.3832	278.9	130.1	-	18N	97W
-0643	Aug 02	16:00:43	19276	485	-32683	57	P	h-	-0.7620	1.4745	0.4453	308.2	147.5	-	21S	159W
-0643	Dec 29	08:27:17	19270	485	-32678	24	N	-h	-1.3008	0.5074	-0.5644	206.0	-	-	23N	45W
-0642	Jun 23	19:20:28	19262	485	-32672	29	N	-a	1.0990	0.8158	-0.1333	225.1	-	-	23S	149E
-0642	Jul 23	03:09:23	19261	485	-32671	67	N	a-	-1.4478	0.1877	-0.7849	117.5	-	-	23S	33E
-0642	Dec 18	09:07:37	19255	485	-32666	34	P	-t	-0.6476	1.7230	0.6174	346.3	177.1	-	23N	57W
-0641	Jun 13	12:33:12	19247	484	-32660	39	T	-a	0.3647	2.1602	1.2167	309.4	198.5	65.3	22S	110W
-0641	Dec 07	08:41:28	19239	484	-32654	44	T+	pp	0.0376	2.8327	1.7461	369.9	231.3	103.6	22N	51W
-0640	Jun 02	03:57:58	19232	484	-32648	49	T	p-	-0.3955	2.1219	1.1423	323.1	201.9	55.9	22S	18E
-0640	Nov 25	14:09:49	19224	484	-32642	54	P	a-	0.7200	1.5529	0.5213	306.5	154.2	-	21N	135W
-0639	Apr 23	00:09:47	19218	484	-32637	21	Ne	-t	1.5624	0.0210	-1.0379	44.5	-	-	9S	78E
-0639	May 22	13:23:18	19217	484	-32636	59	N	t-	-1.2157	0.6445	-0.3896	226.3	-	-	20S	123W
-0639	Oct 16	15:51:10	19210	483	-32631	26	N	-a	-1.3266	0.4078	-0.5605	165.0	-	-	5N	160W
-0639	Nov 15	02:32:22	19209	483	-32630	64	N	a-	1.3468	0.3782	-0.6046	161.5	-	-	18N	39E
-0638	Apr 12	00:49:29	19203	483	-32625	31	P	-t	0.8328	1.3661	0.2945	318.0	128.5	-	5S	68E
-0638	Oct 06	07:29:05	19195	483	-32619	36	P	-a	-0.6788	1.6034	0.6216	293.2	159.1	-	2N	34W
-0637	Apr 01	03:34:30	19188	483	-32613	41	T+	pp	0.0583	2.7697	1.7325	357.1	228.1	103.4	1S	28E
-0637	Sep 25	19:22:46	19180	483	-32607	46	T+	pp	0.0176	2.8410	1.8106	347.8	223.0	101.9	2S	148E
-0636	Mar 20	13:15:16	19172	482	-32601	51	P	a-	-0.6892	1.5857	0.6009	298.5	160.2	-	2N	117W
-0636	Sep 14	00:16:20	19165	482	-32595	56	P	t-	0.7615	1.5005	0.4216	325.1	149.1	-	6S	75E
-0635	Feb 08	19:57:36	19159	482	-32590	23	N	-a	1.2084	0.6210	-0.3396	199.2	-	-	18N	146E
-0635	Mar 10	04:31:03	19157	482	-32589	61	N	a-	-1.3677	0.3251	-0.6285	148.3	-	-	6N	15E
-0635	Aug 04	07:57:00	19151	482	-32584	28	N	-t	-1.4350	0.2575	-0.8070	152.3	-	-	21S	38W
-0635	Sep 03	00:09:32	19150	482	-32583	66	N	t-	1.4740	0.1978	-0.8900	136.7	-	-	9S	77E
-0634	Jan 29	10:59:34	19143	482	-32578	33	P	-a	0.5462	1.8532	0.8582	311.5	182.6	-	20N	81W
-0634	Jul 24	13:47:31	19136	482	-32572	38	P	-t	-0.6365	1.6954	0.6850	315.2	173.4	-	22S	127W
-0633	Jan 18	20:29:27	19128	481	-32566	43	T-	pp	-0.1671	2.5788	1.5244	355.8	223.8	95.8	22N	136E
-0633	Jul 14	02:48:09	19121	481	-32560	48	T+	p-	0.1357	2.5883	1.6292	322.4	212.4	96.1	23S	37E

-0632	Jan 07	22:36:43	19113	481	-32554	53	P	t-	-0.8887	1.2770	0.1784	312.4	101.7	-	23N	103E
-0632	Jul 02	19:40:57	19105	481	-32548	58	P	a-	0.8596	1.2520	0.3090	263.6	116.1	-	23S	144E
-0632	Nov 27	04:05:25	19099	481	-32543	25	N	-t	1.4419	0.2491	-0.8237	147.6	-	-	22N	16E
-0632	Dec 26	21:49:27	19098	481	-32542	63	N	t-	-1.5492	0.0626	-1.0308	77.3	-	-	22N	113E
-0631	May 24	02:57:51	19092	480	-32537	30	P	-a	-0.9538	1.1053	0.1106	269.3	75.4	-	20S	33E
-0631	Nov 16	11:42:43	19084	480	-32531	35	P	-a	0.6954	1.5895	0.5749	302.5	158.1	-	18N	99W
-0630	May 13	10:19:29	19076	480	-32525	40	T-	pp	-0.2004	2.5144	1.4665	361.8	227.5	94.8	17S	77W
-0630	Nov 06	01:28:46	19069	480	-32519	45	T-	pp	-0.0003	2.8446	1.8701	321.2	211.1	98.3	14N	54E
-0629	May 02	11:37:56	19061	480	-32513	50	P	t-	0.5690	1.8493	0.7792	349.7	193.7	-	12S	96W
-0629	Oct 26	17:11:10	19054	479	-32507	55	P	a-	-0.6690	1.6194	0.6415	291.5	159.9	-	10N	179E
-0628	Mar 22	00:55:19	19047	479	-32502	22	N	-t	-1.4525	0.2050	-0.8189	130.1	-	-	1N	68E
-0628	Apr 20	13:28:00	19046	479	-32501	60	N	t-	1.3006	0.4937	-0.5503	202.7	-	-	8S	123W
-0628	Sep 15	16:28:14	19040	479	-32496	27	N	-a	1.4169	0.2807	-0.7638	152.9	-	-	4S	169W
-0628	Oct 15	06:07:49	19039	479	-32495	65	N	a-	-1.3982	0.3035	-0.7181	153.2	-	-	5N	15W
-0627	Mar 11	12:25:26	19032	479	-32490	32	P	-a	-0.6581	1.6373	0.6633	296.6	164.5	-	6N	104W
-0627	Sep 04	19:32:23	19025	479	-32484	37	P	-t	0.7459	1.5322	0.4474	330.6	154.3	-	9S	146E
-0626	Mar 01	04:25:04	19017	479	-32478	42	T+	pp	0.0648	2.7159	1.7619	317.9	210.7	97.9	10N	17E
-0626	Aug 24	19:19:31	19010	478	-32472	47	T+	pp	0.0272	2.8476	1.7691	373.2	234.2	105.3	14S	150E
-0625	Feb 18	20:21:53	19002	478	-32466	52	P	a-	0.7813	1.4138	0.4351	283.0	137.9	-	15N	138E
-0625	Aug 13	23:20:25	18995	478	-32460	57	P	h-	-0.7039	1.5810	0.5522	314.0	161.0	-	18S	90E
-0624	Jan 09	16:33:02	18988	478	-32455	24	N	-h	-1.3149	0.4818	-0.5905	201.8	-	-	22N	166W
-0624	Feb 08	07:39:24	18987	478	-32454	62	N	h-	1.5552	0.0222	-1.0131	43.5	-	-	19N	31W
-0624	Jul 04	02:48:58	18981	478	-32449	29	N	-a	1.1650	0.6946	-0.2544	209.9	-	-	23S	36E
-0624	Aug 02	10:46:38	18979	478	-32448	67	N	a-	-1.3881	0.2972	-0.6753	145.9	-	-	21S	82W
-0624	Dec 28	17:02:40	18973	477	-32443	34	P	-t	-0.6577	1.7038	0.5996	345.1	175.1	-	23N	175W
-0623	Jun 23	19:59:40	18966	477	-32437	39	T	-a	0.4376	2.0277	1.0819	306.0	192.2	41.9	23S	138E
-0623	Dec 17	16:50:37	18958	477	-32431	44	T+	pp	0.0329	2.8396	1.7564	368.7	230.9	103.6	23N	174W
-0622	Jun 13	11:05:51	18951	477	-32425	49	T	p-	-0.3202	2.2621	1.2787	328.4	208.6	75.0	23S	89W
-0622	Dec 06	22:43:51	18943	477	-32419	54	P	a-	0.7167	1.5571	0.5289	305.6	154.7	-	23N	97E
-0621	Jun 02	20:01:14	18935	477	-32413	59	N	t-	-1.1370	0.7905	-0.2467	248.0	-	-	22S	136E
-0621	Oct 28	00:36:41	18929	476	-32408	26	N	-a	-1.3338	0.3955	-0.5742	162.6	-	-	10N	67E
-0621	Nov 26	11:23:16	18928	476	-32407	64	N	a-	1.3436	0.3833	-0.5981	162.2	-	-	21N	95W
-0620	Apr 22	07:18:43	18922	476	-32402	31	P	-t	0.9125	1.2181	0.1497	304.7	93.5	-	9S	31W
-0620	Oct 16	16:03:20	18914	476	-32396	36	P	-a	-0.6924	1.5806	0.5944	292.8	156.6	-	6N	164W
-0619	Apr 11	10:32:10	18907	476	-32390	41	T+	pp	0.1282	2.6385	1.6071	354.4	226.1	100.1	5S	79W
-0619	Oct 06	03:30:03	18899	476	-32384	46	T-	pp	-0.0018	2.8730	1.8366	349.5	223.6	102.1	2N	24E
-0618	Mar 31	20:46:48	18892	475	-32378	51	P	a-	-0.6287	1.6938	0.7147	303.1	171.1	-	2S	128E
-0618	Sep 25	07:51:41	18884	475	-32372	56	P	t-	0.7330	1.5555	0.4712	330.0	156.7	-	1S	41W
-0617	Feb 20	04:13:36	18878	475	-32367	23	N	-a	1.2408	0.5603	-0.3979	190.4	-	-	15N	20E
-0617	Mar 21	12:23:54	18876	475	-32366	61	N	a-	-1.3177	0.4150	-0.5350	165.9	-	-	2N	105W

-0617	Aug 15	14:58:52	18870	475	-32361	28	N	-t	-1.4891	0.1588	-0.9067	120.4	-	-	18S	145W
-0617	Sep 14	07:29:16	18869	475	-32360	66	N	t-	1.4341	0.2724	-0.8182	159.3	-	-	5S	35W
-0616	Feb 09	19:13:01	18863	475	-32355	33	P	-a	0.5735	1.8031	0.8083	310.1	179.2	-	17N	155E
-0616	Aug 03	21:08:53	18855	474	-32349	38	P	-h	-0.6938	1.5899	0.5802	308.1	161.8	-	20S	122E
-0615	Jan 29	04:27:05	18848	474	-32343	43	T-	pp	-0.1457	2.6182	1.5637	357.3	225.3	97.8	20N	16E
-0615	Jul 24	10:23:54	18840	474	-32337	48	T+	pp	0.0731	2.7033	1.7440	322.6	213.2	98.8	22S	77W
-0614	Jan 18	06:23:12	18833	474	-32331	53	P	t-	-0.8716	1.3075	0.2106	315.2	110.0	-	21N	14W
-0614	Jul 14	03:15:18	18825	474	-32325	58	P	a-	0.7943	1.3730	0.4276	272.5	134.3	-	22S	29E
-0614	Dec 08	12:23:10	18819	474	-32320	25	N	-t	1.4400	0.2510	-0.8186	147.6	-	-	24N	109W
-0613	Jan 07	05:46:43	18818	474	-32319	63	N	t-	-1.5359	0.0850	-1.0045	89.6	-	-	22N	6W
-0613	Jun 04	09:57:14	18811	473	-32314	30	N	-a	-1.0346	0.9588	-0.0395	255.9	-	-	22S	73W
-0613	Nov 27	20:23:32	18804	473	-32308	35	P	-a	0.6930	1.5924	0.5804	301.7	158.3	-	21N	130E
-0612	May 23	16:49:54	18796	473	-32302	40	T	-t	-0.2865	2.3575	1.3075	359.9	222.9	82.1	19S	176W
-0612	Nov 16	10:20:10	18789	473	-32296	45	T+	pp	0.0012	2.8427	1.8684	320.8	210.9	98.2	18N	79W
-0611	May 12	17:59:29	18781	473	-32290	50	P	t-	0.4831	2.0062	0.9375	356.7	206.5	-	16S	167E
-0611	Nov 06	01:56:53	18774	472	-32284	55	P	a-	-0.6657	1.6268	0.6460	292.5	160.6	-	14N	46E
-0610	Apr 02	08:07:54	18768	472	-32279	22	N	-t	-1.5070	0.1018	-0.9160	92.1	-	-	3S	43W
-0610	May 01	20:10:41	18766	472	-32278	60	N	t-	1.2211	0.6372	-0.4021	226.2	-	-	12S	135E
-0610	Sep 27	00:20:57	18760	472	-32273	27	N	-a	1.4455	0.2313	-0.8195	140.0	-	-	0S	71E
-0610	Oct 26	14:32:58	18759	472	-32272	65	N	a-	-1.3945	0.3128	-0.7139	156.1	-	-	9N	143W
-0609	Mar 22	20:08:56	18753	472	-32267	32	P	-a	-0.7081	1.5430	0.5743	290.2	154.9	-	1N	138E
-0609	Sep 16	02:54:35	18745	472	-32261	37	P	-t	0.7839	1.4649	0.3754	326.6	143.1	-	5S	34E
-0608	Mar 11	12:24:55	18737	472	-32255	42	T+	pp	0.0194	2.7977	1.8465	317.9	211.2	98.9	6N	105W
-0608	Sep 04	02:35:40	18730	471	-32249	47	T+	pp	0.0717	2.7669	1.6866	372.5	233.3	103.9	10S	39E
-0607	Mar 01	04:21:46	18723	471	-32243	52	P	a-	0.7445	1.4809	0.5028	288.1	147.1	-	11N	17E
-0607	Aug 24	06:51:48	18715	471	-32237	57	P	a-	-0.6545	1.6715	0.6428	318.3	170.6	-	14S	24W
-0606	Jan 20	00:30:27	18709	471	-32232	24	N	-t	-1.3345	0.4459	-0.6264	195.3	-	-	20N	74E
-0606	Feb 18	15:26:54	18708	471	-32231	62	N	t-	1.5280	0.0722	-0.9631	78.5	-	-	15N	149W
-0606	Jul 15	10:22:12	18701	471	-32226	29	N	-a	1.2274	0.5804	-0.3690	193.8	-	-	22S	78W
-0606	Aug 13	18:31:45	18700	471	-32225	67	N	a-	-1.3342	0.3962	-0.5765	166.5	-	-	18S	161E
-0605	Jan 09	00:53:19	18694	470	-32220	34	P	-t	-0.6710	1.6782	0.5762	343.4	172.4	-	23N	67E
-0605	Jul 05	03:27:37	18686	470	-32214	39	P	-a	0.5085	1.8991	0.9505	302.0	184.7	-	23S	25E
-0605	Dec 29	00:58:09	18679	470	-32208	44	T+	pp	0.0259	2.8503	1.7711	367.4	230.5	103.6	24N	65E
-0604	Jun 23	18:12:08	18671	470	-32202	49	T-	pp	-0.2444	2.4035	1.4156	333.0	213.9	87.3	24S	163E
-0604	Dec 17	07:18:13	18664	470	-32196	54	P	a-	0.7130	1.5619	0.5377	304.7	155.3	-	24N	32W
-0603	Jun 13	02:38:05	18656	469	-32190	59	N	t-	-1.0577	0.9380	-0.1030	267.1	-	-	24S	36E
-0603	Nov 07	09:26:17	18650	469	-32185	26	N	-a	-1.3379	0.3885	-0.5823	161.3	-	-	13N	66W
-0603	Dec 06	20:14:24	18649	469	-32184	64	N	a-	1.3406	0.3880	-0.5917	162.8	-	-	23N	132E
-0602	May 03	13:46:00	18643	469	-32179	31	P	-t	0.9938	1.0675	0.0020	289.3	11.1	-	13S	130W
-0602	Oct 28	00:42:07	18635	469	-32173	36	P	-a	-0.7017	1.5655	0.5753	292.8	154.8	-	10N	65E

-0601	Apr 22	17:27:00	18628	469	-32167	41	T+	pp	0.2015	2.5013	1.4755	350.8	222.7	93.6	9S	175E
-0601	Oct 17	11:42:30	18620	469	-32161	46	T-	pp	-0.0162	2.8494	1.8074	351.2	224.1	102.0	7N	101W
-0600	Apr 11	04:13:43	18613	468	-32155	51	P	a-	-0.5636	1.8106	0.8367	307.4	180.9	-	6S	14E
-0600	Oct 05	15:34:16	18605	468	-32149	56	P	t-	0.7105	1.5994	0.5102	333.9	162.3	-	3N	158W

6TH CENTURY BCE

**In the 6th century BCE the total number of lunar eclipses was 255 lunar eclipses:
95 penumbral lunar eclipses, 100 partial lunar eclipses, 60 total lunar eclipses
(49 central total lunar eclipses, 11 non-central total lunar eclipses).**

CALENDAR		TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG	
GREATEST		S									m	m	m	°	°	
ECLIPSE																
-0599	Mar 02	12:20:06	18599	468	-32144	23	N	-a	1.2810	0.4855	-0.4707	178.6	-	-	11N	103W
-0599	Mar 31	20:09:28	18598	468	-32143	61	N	a-	-1.2615	0.5165	-0.4304	183.0	-	-	3S	136E
-0599	Aug 25	22:12:22	18592	468	-32138	28	N	-t	-1.5346	0.0758	-0.9905	83.6	-	-	15S	105E
-0599	Sep 24	14:59:32	18590	468	-32137	66	N	t-	1.4018	0.3327	-0.7601	175.0	-	-	1S	149W
-0598	Feb 20	03:16:34	18584	468	-32132	33	P	-a	0.6086	1.7386	0.7439	307.9	174.3	-	14N	33E
-0598	Aug 15	04:39:43	18577	467	-32126	38	P	-h	-0.7443	1.4970	0.4877	301.2	150.0	-	17S	8E
-0597	Feb 09	12:14:32	18569	467	-32120	43	T-	pp	-0.1165	2.6717	1.6173	358.9	226.8	100.2	17N	102W
-0597	Aug 04	18:06:57	18562	467	-32114	48	T+	pp	0.0159	2.8085	1.8486	322.4	213.3	99.7	19S	166E
-0596	Jan 29	13:59:33	18554	467	-32108	53	P	t-	-0.8466	1.3524	0.2578	319.0	121.0	-	19N	129W
-0596	Jul 24	10:54:42	18547	467	-32102	58	P	a-	0.7334	1.4863	0.5379	280.2	148.2	-	21S	86W
-0596	Dec 18	20:39:36	18541	467	-32097	25	N	-t	1.4398	0.2492	-0.8164	146.6	-	-	25N	128E
-0595	Jan 17	13:37:00	18539	467	-32096	63	N	t-	-1.5163	0.1186	-0.9662	105.2	-	-	21N	124W
-0595	Jun 14	16:55:21	18533	466	-32091	30	N	-a	-1.1152	0.8131	-0.1895	240.3	-	-	24S	178W
-0595	Jul 14	02:23:45	18532	466	-32090	68	N	a-	1.4983	0.0986	-0.8811	86.8	-	-	22S	41E
-0595	Dec 08	05:04:35	18526	466	-32085	35	P	-a	0.6914	1.5939	0.5850	300.7	158.4	-	23N	0W
-0594	Jun 03	23:18:37	18518	466	-32079	40	T	-t	-0.3733	2.1997	1.1470	356.7	216.3	60.1	22S	85E

-0594	Nov 27	19:14:14	18511	466	-32073	45	T+	pp	0.0010	2.8430	1.8692	320.5	210.8	98.1	20N	146E
-0593	May 24	00:17:29	18503	466	-32067	50	T	t-	0.3939	2.1693	1.1018	362.5	216.8	51.4	19S	71E
-0593	Nov 17	10:46:34	18496	465	-32061	55	P	a-	-0.6662	1.6272	0.6440	293.2	160.6	-	17N	87W
-0592	May 12	02:50:24	18488	465	-32055	60	N	t-	1.1377	0.7881	-0.2469	246.8	-	-	15S	33E
-0592	Oct 07	08:20:48	18482	465	-32050	27	N	a-	1.4674	0.1941	-0.8626	129.3	-	-	4N	51W
-0592	Nov 05	23:02:26	18481	465	-32049	65	N	a-	-1.3951	0.3140	-0.7172	157.0	-	-	13N	89E
-0591	Apr 02	03:46:19	18475	465	-32044	32	P	a-	-0.7636	1.4386	0.4749	282.7	142.8	-	3S	22E
-0591	Sep 26	10:25:45	18467	465	-32038	37	P	t-	0.8141	1.4117	0.3177	323.3	132.9	-	1S	81W
-0590	Mar 22	20:18:48	18460	465	-32032	42	T-	pp	-0.0308	2.7755	1.8269	317.7	211.2	98.9	2N	135E
-0590	Sep 15	10:00:26	18452	464	-32026	47	T+	pp	0.1095	2.6983	1.6164	371.5	232.0	101.8	6S	74W
-0589	Mar 12	12:14:36	18445	464	-32020	52	P	a-	0.7026	1.5576	0.5798	293.5	156.5	-	7N	103W
-0589	Sep 04	14:32:25	18438	464	-32014	57	P	a-	-0.6120	1.7495	0.7209	321.4	177.8	-	11S	141W
-0588	Jan 31	08:18:37	18431	464	-32009	24	N	t-	-1.3608	0.3974	-0.6744	185.6	-	-	18N	44W
-0588	Feb 29	23:03:46	18430	464	-32008	62	N	t-	1.4931	0.1362	-0.8991	107.5	-	-	11N	95E
-0588	Jul 25	18:01:53	18424	464	-32003	29	N	a-	1.2848	0.4756	-0.4749	177.0	-	-	20S	167E
-0588	Aug 24	02:26:09	18423	464	-32002	67	N	a-	-1.2873	0.4826	-0.4908	181.8	-	-	15S	41E
-0587	Jan 19	08:35:49	18416	463	-31997	34	P	t-	-0.6909	1.6403	0.5411	340.8	168.0	-	21N	49W
-0587	Jul 15	11:01:00	18409	463	-31991	39	P	a-	0.5746	1.7795	0.8274	297.6	176.3	-	22S	89W
-0586	Jan 08	08:59:35	18402	463	-31985	44	T+	pp	0.0135	2.8708	1.7963	366.0	230.2	103.7	23N	56W
-0586	Jul 05	01:22:24	18394	463	-31979	49	T-	pp	-0.1728	2.5373	1.5444	336.8	217.7	95.1	24S	55E
-0586	Dec 28	15:49:31	18387	463	-31973	54	P	a-	0.7063	1.5721	0.5523	304.1	156.6	-	24N	160W
-0585	Jun 24	09:14:45	18379	463	-31967	59	P	t-	-0.9789	1.0847	0.0396	283.9	47.8	-	25S	64W
-0585	Nov 18	18:19:07	18373	462	-31962	26	N	a-	-1.3396	0.3856	-0.5859	160.7	-	-	17N	160E
-0585	Dec 18	05:04:19	18372	462	-31961	64	N	a-	1.3366	0.3941	-0.5833	163.7	-	-	25N	0E
-0584	May 13	20:08:55	18366	462	-31956	31	N	t-	1.0782	0.9114	-0.1516	271.2	-	-	16S	133E
-0584	Nov 07	09:25:28	18358	462	-31950	36	P	a-	-0.7069	1.5577	0.5640	293.2	153.9	-	14N	68W
-0583	May 03	00:17:39	18351	462	-31944	41	T	pp	0.2790	2.3567	1.3358	346.4	217.8	82.9	13S	71E
-0583	Oct 27	20:01:17	18343	462	-31938	46	T-	pp	-0.0243	2.8371	1.7899	352.8	224.5	102.0	11N	133E
-0582	Apr 22	11:35:50	18336	461	-31932	51	P	a-	-0.4937	1.9366	0.9675	311.5	189.6	-	10S	98W
-0582	Oct 16	23:23:28	18329	461	-31926	56	P	t-	0.6938	1.6322	0.5387	336.9	166.3	-	7N	83E
-0581	Mar 13	20:19:05	18322	461	-31921	23	N	a-	1.3273	0.3996	-0.5546	163.5	-	-	7N	135E
-0581	Apr 12	03:49:02	18321	461	-31920	61	N	a-	-1.2005	0.6272	-0.3171	199.3	-	-	7S	19E
-0581	Sep 06	05:35:27	18315	461	-31915	28	Ne	t-	-1.5730	0.0058	-1.0615	23.3	-	-	11S	7W
-0581	Oct 05	22:38:52	18314	461	-31914	66	N	t-	1.3762	0.3806	-0.7141	186.2	-	-	3N	94E
-0580	Mar 02	11:10:04	18308	461	-31909	33	P	a-	0.6512	1.6604	0.6659	304.7	167.6	-	10N	87W
-0580	Aug 25	12:20:00	18300	461	-31903	38	P	a-	-0.7878	1.4171	0.4080	294.8	138.4	-	14S	108W
-0579	Feb 19	19:52:11	18293	460	-31897	43	T-	pp	-0.0801	2.7382	1.6842	360.4	228.3	102.3	13N	143E
-0579	Aug 15	01:57:47	18285	460	-31891	48	T-	pp	-0.0350	2.7741	1.8132	321.8	212.8	99.2	17S	47E
-0578	Feb 08	21:28:01	18278	460	-31885	53	P	t-	-0.8152	1.4086	0.3166	323.5	133.0	-	16N	119E
-0578	Aug 04	18:40:20	18271	460	-31879	58	P	a-	0.6779	1.5898	0.6380	286.6	159.0	-	19S	156E

-0578	Dec 30	04:54:12	18264	460	-31874	25	N	-t	1.4418	0.2433	-0.8178	144.4	-	-	25N	4E
-0577	Jan 28	21:22:00	18263	460	-31873	63	N	t-	-1.4918	0.1609	-0.9188	121.7	-	-	19N	119E
-0577	Jun 25	23:53:14	18257	459	-31868	30	N	-a	-1.1947	0.6697	-0.3377	222.3	-	-	25S	77E
-0577	Jul 25	09:47:12	18256	459	-31867	68	N	a-	1.4412	0.2062	-0.7790	124.8	-	-	20S	71W
-0577	Dec 19	13:44:53	18250	459	-31862	35	P	-a	0.6910	1.5927	0.5874	299.6	158.2	-	24N	130W
-0576	Jun 14	05:46:48	18242	459	-31856	40	P	-t	-0.4597	2.0426	0.9869	352.3	207.4	-	23S	12W
-0576	Dec 08	04:06:54	18235	459	-31850	45	T+	pp	0.0019	2.8407	1.8679	320.2	210.7	98.1	22N	13E
-0575	Jun 03	06:36:51	18227	459	-31844	50	T	tp	0.3054	2.3313	1.2645	366.9	224.6	78.3	21S	25W
-0575	Nov 27	19:36:25	18220	459	-31838	55	P	a-	-0.6670	1.6268	0.6415	293.8	160.6	-	20N	140E
-0574	May 23	09:31:05	18213	458	-31832	60	N	t-	1.0539	0.9400	-0.0911	264.3	-	-	18S	69W
-0574	Oct 18	16:25:33	18206	458	-31827	27	N	-a	1.4845	0.1655	-0.8967	120.2	-	-	9N	174W
-0574	Nov 17	07:33:04	18205	458	-31826	65	N	a-	-1.3973	0.3120	-0.7232	157.1	-	-	16N	40W
-0573	Apr 13	11:18:26	18199	458	-31821	32	P	-a	-0.8241	1.3254	0.3662	274.0	127.2	-	7S	94W
-0573	Oct 07	18:05:03	18192	458	-31815	37	P	-t	0.8371	1.3714	0.2734	320.7	124.3	-	4N	162E
-0572	Apr 02	04:03:09	18184	458	-31809	42	T-	pp	-0.0889	2.6679	1.7214	317.2	210.7	97.6	2S	16E
-0572	Sep 25	17:36:50	18177	457	-31803	47	T+	pp	0.1382	2.6463	1.5631	370.4	230.7	99.5	1S	170E
-0571	Mar 22	19:56:44	18170	457	-31797	52	P	a-	0.6527	1.6492	0.6715	299.5	166.4	-	2N	139E
-0571	Sep 14	22:24:11	18162	457	-31791	57	P	a-	-0.5777	1.8124	0.7839	323.5	182.8	-	6S	99E
-0570	Feb 10	15:56:39	18156	457	-31786	24	N	-t	-1.3943	0.3356	-0.7355	171.9	-	-	15N	159W
-0570	Mar 12	06:30:05	18155	457	-31785	62	N	t-	1.4507	0.2141	-0.8212	134.3	-	-	7N	18W
-0570	Aug 06	01:48:51	18149	457	-31780	29	N	-a	1.3365	0.3815	-0.5705	159.9	-	-	18S	49E
-0570	Sep 04	10:29:52	18147	457	-31779	67	N	a-	-1.2475	0.5559	-0.4182	193.4	-	-	11S	81W
-0569	Jan 30	16:11:39	18141	457	-31774	34	P	-t	-0.7160	1.5925	0.4967	337.3	162.1	-	19N	163W
-0569	Jul 26	18:37:35	18134	456	-31768	39	P	-a	0.6373	1.6665	0.7104	292.9	166.9	-	21S	157E
-0568	Jan 19	16:57:31	18126	456	-31762	44	T-	pp	-0.0025	2.8882	1.8192	364.5	229.8	103.8	22N	175W
-0568	Jul 15	08:34:23	18119	456	-31756	49	T-	pp	-0.1039	2.6666	1.6681	339.8	220.4	99.8	23S	53W
-0567	Jan 08	00:17:02	18112	456	-31750	54	P	a-	0.6959	1.5885	0.5738	303.8	158.6	-	24N	74E
-0567	Jul 04	15:53:53	18104	456	-31744	59	P	t-	-0.9027	1.2268	0.1771	298.5	99.4	-	25S	164W
-0567	Nov 29	03:13:32	18098	455	-31739	26	N	-a	-1.3400	0.3851	-0.5866	160.7	-	-	19N	26E
-0567	Dec 28	13:51:59	18097	455	-31738	64	N	a-	1.3312	0.4026	-0.5721	165.0	-	-	25N	131W
-0566	May 25	02:32:11	18091	455	-31733	31	N	-t	1.1624	0.7559	-0.3049	250.3	-	-	18S	36E
-0566	Nov 18	18:10:10	18083	455	-31727	36	P	-a	-0.7105	1.5528	0.5559	293.8	153.3	-	17N	160E
-0565	May 14	07:08:06	18076	455	-31721	41	T	-p	0.3574	2.2104	1.1942	341.0	211.4	66.1	16S	33W
-0565	Nov 08	04:22:25	18069	455	-31715	46	T-	pp	-0.0299	2.8291	1.7774	354.3	225.0	102.0	15N	7E
-0564	May 02	18:54:37	18061	455	-31709	51	T	a-	-0.4200	2.0695	1.1047	315.0	197.0	47.8	14S	150E
-0564	Oct 27	07:18:18	18054	454	-31703	56	P	t-	0.6819	1.6558	0.5586	339.2	169.0	-	12N	38W
-0563	Mar 24	04:09:40	18048	454	-31698	23	N	-a	1.3801	0.3018	-0.6509	143.6	-	-	3N	16E
-0563	Apr 22	11:23:44	18047	454	-31697	61	N	a-	-1.1353	0.7457	-0.1965	214.6	-	-	11S	97W
-0563	Oct 16	06:25:43	18039	454	-31691	66	N	t-	1.3562	0.4180	-0.6780	194.3	-	-	8N	24W
-0562	Mar 13	18:53:46	18033	454	-31686	33	P	-a	0.7011	1.5689	0.5742	300.5	158.5	-	6N	155E

-0562	Sep 05	20:10:55	18026	454	-31680	38	P	-a	-0.8233	1.3520	0.3429	289.2	127.7	-	10S	133E
-0561	Mar 03	03:18:23	18018	453	-31674	43	T-	pp	-0.0351	2.8206	1.7670	361.8	229.6	104.0	9N	29E
-0561	Aug 26	09:56:59	18011	453	-31668	48	T-	pp	-0.0792	2.6935	1.7313	321.0	211.8	97.9	13S	74W
-0560	Feb 20	04:45:34	18004	453	-31662	53	P	t-	-0.7750	1.4809	0.3919	328.8	146.3	-	13N	8E
-0560	Aug 15	02:33:13	17996	453	-31656	58	P	a-	0.6287	1.6821	0.7264	292.0	167.3	-	16S	37E
-0559	Jan 09	13:03:09	17990	453	-31651	25	N	-t	1.4490	0.2274	-0.8284	139.2	-	-	24N	118W
-0559	Feb 08	04:57:22	17989	453	-31650	63	N	t-	-1.4588	0.2186	-0.8554	140.6	-	-	16N	5E
-0559	Jul 06	06:53:28	17983	453	-31645	30	N	-h	-1.2710	0.5323	-0.4804	201.8	-	-	25S	29W
-0559	Aug 04	17:16:59	17982	453	-31644	68	N	h-	1.3896	0.3038	-0.6873	150.8	-	-	18S	176E
-0559	Dec 29	22:22:43	17976	452	-31639	35	P	-a	0.6937	1.5857	0.5847	298.1	157.5	-	24N	101E
-0558	Jun 25	12:15:20	17968	452	-31633	40	P	-t	-0.5450	1.8878	0.8287	346.8	196.0	-	24S	110W
-0558	Dec 19	12:58:59	17961	452	-31627	45	T+	pp	0.0036	2.8369	1.8656	319.9	210.6	98.1	24N	120W
-0557	Jun 14	12:56:20	17954	452	-31621	50	T+	pp	0.2164	2.4944	1.4280	370.0	230.1	93.4	23S	121W
-0557	Dec 09	04:26:30	17946	452	-31615	55	P	a-	-0.6687	1.6244	0.6376	294.3	160.5	-	22N	7E
-0556	Jun 02	16:11:31	17939	451	-31609	60	P	t-	0.9686	1.0949	0.0670	279.5	61.0	-	20S	170W
-0556	Oct 29	00:36:15	17933	451	-31604	27	N	-a	1.4960	0.1470	-0.9201	113.9	-	-	13N	62E
-0556	Nov 27	16:05:20	17932	451	-31603	65	N	a-	-1.4016	0.3058	-0.7328	156.2	-	-	19N	168W
-0555	Apr 23	18:46:42	17925	451	-31598	32	P	-a	-0.8881	1.2058	0.2506	264.1	106.7	-	11S	152E
-0555	Oct 18	01:50:41	17918	451	-31592	37	P	-t	0.8547	1.3409	0.2396	318.7	117.0	-	8N	44E
-0554	Apr 13	11:43:16	17911	451	-31586	42	T-	-p	-0.1505	2.5541	1.6092	316.3	209.4	94.4	7S	101W
-0554	Oct 07	01:21:50	17903	451	-31580	47	T+	pp	0.1605	2.6060	1.5219	369.3	229.4	97.4	3N	52E
-0553	Apr 03	03:31:24	17896	450	-31574	52	P	a-	0.5973	1.7510	0.7730	305.6	176.1	-	2S	23E
-0553	Sep 26	06:25:04	17889	450	-31568	57	P	a-	-0.5502	1.8627	0.8344	324.8	186.4	-	2S	23W
-0552	Feb 21	23:24:29	17883	450	-31563	24	N	-t	-1.4350	0.2603	-0.8097	152.8	-	-	12N	88E
-0552	Mar 22	13:46:20	17881	450	-31562	62	N	t-	1.4008	0.3057	-0.7299	159.6	-	-	3N	129W
-0552	Aug 16	09:43:49	17875	450	-31557	29	N	-a	1.3818	0.2993	-0.6546	142.6	-	-	15S	71W
-0552	Sep 14	18:42:50	17874	450	-31556	67	N	a-	-1.2151	0.6159	-0.3591	201.9	-	-	7S	154E
-0551	Feb 09	23:37:00	17868	450	-31551	34	P	-t	-0.7494	1.5294	0.4372	332.6	153.5	-	16N	85E
-0551	Aug 06	02:21:42	17861	449	-31545	39	P	-a	0.6932	1.5662	0.6057	288.3	157.0	-	18S	40E
-0550	Jan 30	00:47:45	17853	449	-31539	44	T-	pp	-0.0251	2.8438	1.7805	362.8	229.3	103.6	19N	67E
-0550	Jul 26	15:50:51	17846	449	-31533	49	T-	pp	-0.0397	2.7874	1.7830	342.3	222.0	102.1	21S	163W
-0549	Jan 19	08:39:00	17839	449	-31527	54	P	a-	0.6804	1.6142	0.6049	304.0	161.6	-	22N	52W
-0549	Jul 15	22:36:04	17831	449	-31521	59	P	t-	-0.8297	1.3632	0.3086	311.1	129.1	-	24S	95E
-0549	Dec 10	12:07:06	17825	449	-31516	26	N	-a	-1.3415	0.3821	-0.5893	160.1	-	-	21N	108W
-0548	Jan 08	22:34:11	17824	449	-31515	64	N	a-	1.3213	0.4194	-0.5523	167.9	-	-	25N	98E
-0548	Jun 04	08:54:17	17818	448	-31510	31	N	-t	1.2475	0.5987	-0.4603	225.8	-	-	21S	61W
-0548	Nov 29	02:56:15	17811	448	-31504	36	P	-a	-0.7125	1.5503	0.5509	294.6	153.1	-	20N	28E
-0547	May 24	13:58:06	17803	448	-31498	41	T	-t	0.4372	2.0619	1.0497	334.7	203.2	34.9	19S	137W
-0547	Nov 18	12:45:53	17796	448	-31492	46	T-	pp	-0.0328	2.8258	1.7702	355.8	225.5	102.1	18N	120W
-0546	May 14	02:11:53	17789	448	-31486	51	T	a-	-0.3444	2.2065	1.2453	317.8	203.0	69.9	17S	39E

-0546	Nov 07	15:18:18	17782	448	-31480	56	P	t-	0.6747	1.6706	0.5704	340.8	170.7	-	15N	159W
-0545	Apr 04	11:52:33	17775	447	-31475	23	N	-a	1.4391	0.1930	-0.7585	116.1	-	-	2S	102W
-0545	May 03	18:53:08	17774	447	-31474	61	N	a-	-1.0657	0.8727	-0.0680	229.1	-	-	15S	149E
-0545	Oct 27	14:20:44	17767	447	-31468	66	N	t-	1.3420	0.4444	-0.6524	199.6	-	-	12N	145W
-0544	Mar 24	02:28:20	17761	447	-31463	33	P	-a	0.7576	1.4653	0.4703	295.0	146.2	-	2N	39E
-0544	Sep 16	04:11:39	17754	447	-31457	38	P	-a	-0.8518	1.2997	0.2906	284.4	118.1	-	6S	11E
-0543	Mar 13	10:34:35	17746	447	-31451	43	T+	pp	0.0175	2.8527	1.7995	362.8	230.3	104.5	5N	81W
-0543	Sep 05	18:05:06	17739	446	-31445	48	T-	-p	-0.1166	2.6258	1.6621	320.2	210.7	96.0	9S	163E
-0542	Mar 02	11:55:29	17732	446	-31439	53	P	t-	-0.7283	1.5649	0.4791	334.6	159.6	-	9N	101W
-0542	Aug 26	10:32:08	17724	446	-31433	58	P	a-	0.5847	1.7649	0.8051	296.7	174.0	-	13S	84W
-0541	Jan 20	21:08:07	17718	446	-31428	25	N	-t	1.4602	0.2040	-0.8461	131.6	-	-	23N	121E
-0541	Feb 19	12:26:59	17717	446	-31427	63	N	t-	-1.4202	0.2865	-0.7816	159.4	-	-	12N	109W
-0541	Jul 17	13:56:37	17711	446	-31422	30	N	-h	-1.3440	0.4013	-0.6171	178.3	-	-	24S	135W
-0541	Aug 16	00:52:13	17710	446	-31421	68	N	h-	1.3428	0.3928	-0.6045	170.8	-	-	15S	61E
-0540	Jan 10	06:55:35	17704	446	-31416	35	P	-a	0.7010	1.5700	0.5736	296.1	155.9	-	24N	27W
-0540	Jul 05	18:47:00	17696	445	-31410	40	P	-t	-0.6269	1.7395	0.6765	340.2	182.1	-	24S	152E
-0540	Dec 29	21:46:39	17689	445	-31404	45	T+	pp	0.0092	2.8257	1.8563	319.6	210.6	98.1	24N	109E
-0539	Jun 24	19:21:04	17682	445	-31398	50	T+	pp	0.1313	2.6505	1.5841	371.8	233.4	101.8	24S	142E
-0539	Dec 19	13:12:41	17675	445	-31392	55	P	a-	-0.6676	1.6270	0.6392	295.1	161.0	-	23N	124W
-0538	Jun 13	22:56:49	17667	445	-31386	60	P	t-	0.8857	1.2454	0.2205	292.0	107.9	-	22S	88E
-0538	Nov 09	08:49:59	17661	444	-31381	27	N	-a	1.5044	0.1336	-0.9377	109.1	-	-	17N	62W
-0538	Dec 09	00:35:45	17660	444	-31380	65	N	a-	-1.4051	0.3008	-0.7405	155.6	-	-	21N	64E
-0537	May 05	02:10:35	17654	444	-31375	32	P	-a	-0.9564	1.0788	0.1270	252.6	77.2	-	15S	39E
-0537	Oct 29	09:43:28	17647	444	-31369	37	P	-t	0.8662	1.3211	0.2171	317.5	111.8	-	12N	76W
-0536	Apr 23	19:16:05	17639	444	-31363	42	T-	-p	-0.2183	2.4292	1.4853	314.8	207.0	88.8	11S	144E
-0536	Oct 17	09:16:35	17632	444	-31357	47	T+	pp	0.1753	2.5790	1.4945	368.3	228.3	95.8	7N	68W
-0535	Apr 13	10:56:41	17625	444	-31351	52	P	a-	0.5347	1.8662	0.8874	311.9	185.5	-	6S	90W
-0535	Oct 06	14:36:29	17618	443	-31345	57	P	a-	-0.5303	1.8990	0.8711	325.4	188.6	-	2N	148W
-0534	Mar 04	06:42:08	17611	443	-31340	24	N	-t	-1.4828	0.1720	-0.8969	125.4	-	-	8N	24W
-0534	Apr 02	20:53:04	17610	443	-31339	62	N	t-	1.3441	0.4099	-0.6262	183.7	-	-	1S	122E
-0534	Aug 27	17:45:50	17604	443	-31334	29	N	-a	1.4217	0.2272	-0.7289	125.0	-	-	11S	167E
-0534	Sep 26	03:03:48	17603	443	-31333	67	N	a-	-1.1888	0.6646	-0.3113	208.4	-	-	3S	26E
-0533	Feb 21	06:54:55	17597	443	-31328	34	P	-t	-0.7888	1.4550	0.3670	326.7	142.1	-	12N	26W
-0533	Aug 17	10:11:03	17590	443	-31322	39	P	-a	0.7440	1.4754	0.5100	283.8	146.5	-	15S	79W
-0532	Feb 10	08:31:05	17582	442	-31316	44	T-	pp	-0.0543	2.7871	1.7300	360.9	228.5	103.0	16N	50W
-0532	Aug 05	23:12:01	17575	442	-31310	49	T+	pp	0.0196	2.8273	1.8167	344.2	222.7	102.4	19S	86E
-0531	Jan 29	16:55:25	17568	442	-31304	54	P	a-	0.6598	1.6491	0.6456	304.6	165.4	-	20N	176W
-0531	Jul 26	05:23:19	17561	442	-31298	59	P	t-	-0.7611	1.4916	0.4319	321.8	150.2	-	22S	7W
-0531	Dec 20	20:58:19	17555	442	-31293	26	N	-a	-1.3450	0.3753	-0.5955	158.8	-	-	22N	119E
-0530	Jan 19	07:11:17	17553	442	-31292	64	N	a-	1.3073	0.4433	-0.5251	171.9	-	-	23N	31W

-0530	Jun 15	15:20:37	17547	442	-31287	31	N	-t	1.3293	0.4480	-0.6097	197.7	-	-	22S	158W
-0530	Jul 15	06:08:29	17546	442	-31286	69	N	t-	-1.5126	0.1197	-0.9539	106.8	-	-	24S	19W
-0530	Dec 10	11:41:02	17540	441	-31281	36	P	-a	-0.7151	1.5466	0.5451	295.2	152.8	-	22N	103W
-0529	Jun 04	20:49:29	17533	441	-31275	41	P	-t	0.5167	1.9142	0.9056	327.4	193.1	-	21S	119E
-0529	Nov 29	21:09:23	17526	441	-31269	46	T-	pp	-0.0349	2.8237	1.7649	357.1	226.1	102.2	21N	114E
-0528	May 24	09:28:46	17518	441	-31263	51	T-	p-	-0.2679	2.3454	1.3871	320.0	207.6	83.4	20S	71W
-0528	Nov 17	23:19:54	17511	441	-31257	56	P	t-	0.6692	1.6817	0.5794	342.1	172.0	-	19N	80E
-0527	Apr 14	19:28:38	17505	441	-31252	23	Ne	-a	1.5031	0.0753	-0.8757	73.4	-	-	6S	142E
-0527	May 14	02:20:24	17504	441	-31251	61	P	a-	-0.9944	1.0032	0.0632	242.2	54.3	-	18S	36E
-0527	Nov 06	22:21:07	17497	440	-31245	66	N	t-	1.3321	0.4625	-0.6342	203.0	-	-	16N	94E
-0526	Apr 04	09:54:02	17491	440	-31240	33	P	-a	0.8207	1.3499	0.3542	288.0	129.6	-	2S	74W
-0526	Sep 27	12:21:21	17483	440	-31234	38	P	-a	-0.8737	1.2594	0.2505	280.3	110.0	-	2S	114W
-0525	Mar 24	17:40:04	17476	440	-31228	43	T+	pp	0.0780	2.7416	1.6886	363.4	230.3	103.3	1N	170E
-0525	Sep 17	02:22:04	17469	440	-31222	48	T-	-p	-0.1468	2.5712	1.6058	319.4	209.6	94.0	5S	37E
-0524	Mar 12	18:53:03	17462	439	-31216	53	P	t-	-0.6716	1.6673	0.5848	340.9	173.4	-	5N	152E
-0524	Sep 05	18:39:58	17454	439	-31210	58	P	a-	0.5485	1.8335	0.8693	300.4	179.0	-	9S	152E
-0523	Jan 31	05:05:32	17448	439	-31205	25	N	-t	1.4780	0.1682	-0.8758	119.3	-	-	20N	1E
-0523	Mar 01	19:47:00	17447	439	-31204	63	N	t-	-1.3731	0.3699	-0.6921	179.1	-	-	9N	139E
-0523	Jul 27	21:04:26	17441	439	-31199	30	N	-h	-1.4118	0.2800	-0.7445	151.3	-	-	22S	118E
-0523	Aug 26	08:34:31	17440	439	-31198	68	N	h-	1.3026	0.4699	-0.5338	186.3	-	-	12S	56W
-0522	Jan 20	15:23:11	17434	439	-31193	35	P	-a	0.7132	1.5451	0.5536	293.5	153.3	-	22N	154W
-0522	Jul 17	01:22:48	17427	439	-31187	40	P	-t	-0.7047	1.5988	0.5318	332.7	165.6	-	23S	52E
-0521	Jan 10	06:31:00	17419	438	-31181	45	T+	pp	0.0174	2.8095	1.8423	319.3	210.6	98.2	23N	22W
-0521	Jul 06	01:48:13	17412	438	-31175	50	T+	pp	0.0478	2.8040	1.7371	372.5	234.9	105.7	24S	45E
-0521	Dec 30	21:56:30	17405	438	-31169	55	P	a-	-0.6651	1.6317	0.6433	296.0	161.8	-	23N	105E
-0520	Jun 24	05:45:12	17398	438	-31163	60	P	t-	0.8041	1.3940	0.3714	302.6	136.5	-	23S	15W
-0520	Nov 19	17:05:59	17392	438	-31158	27	N	-h	1.5102	0.1247	-0.9501	105.8	-	-	20N	173E
-0520	Dec 19	09:03:29	17390	438	-31157	65	N	h-	-1.4072	0.2979	-0.7455	155.4	-	-	22N	63W
-0519	May 15	09:33:20	17384	438	-31152	32	P	-a	-1.0260	0.9497	0.0006	239.8	5.5	-	18S	73W
-0519	Jun 13	16:58:11	17383	437	-31151	70	Nb	a-	1.5036	0.0829	-0.8851	78.9	-	-	21S	176E
-0519	Nov 08	17:40:42	17377	437	-31146	37	P	-t	0.8741	1.3076	0.2016	316.6	108.0	-	16N	164E
-0518	May 05	02:45:46	17370	437	-31140	42	T	-p	-0.2883	2.3004	1.3569	312.6	203.6	79.9	14S	29E
-0518	Oct 28	17:16:58	17363	437	-31134	47	T+	pp	0.1859	2.5593	1.4750	367.2	227.4	94.5	12N	170E
-0517	Apr 24	18:16:24	17356	437	-31128	52	T	a-	0.4683	1.9887	1.0087	317.9	194.2	14.3	10S	158E
-0517	Oct 17	22:55:13	17348	437	-31122	57	P	a-	-0.5161	1.9246	0.8975	325.4	190.0	-	7N	86E
-0516	Mar 14	13:48:20	17342	436	-31117	24	Ne	-t	-1.5386	0.0692	-0.9987	80.4	-	-	3N	132W
-0516	Apr 13	03:50:17	17341	436	-31116	62	N	t-	1.2807	0.5267	-0.5102	206.6	-	-	6S	15E
-0516	Sep 07	01:56:52	17335	436	-31111	29	N	-a	1.4545	0.1683	-0.7902	108.2	-	-	7S	42E
-0516	Oct 06	11:33:17	17334	436	-31110	67	N	a-	-1.1694	0.7007	-0.2760	212.8	-	-	2N	103W
-0515	Mar 03	14:02:34	17328	436	-31105	34	P	-t	-0.8362	1.3660	0.2821	319.2	126.1	-	8N	135W

-0515	Aug 27	18:08:16	17321	436	-31099	39	P	-a	0.7878	1.3976	0.4272	279.6	136.0	-	12S	160E
-0514	Feb 20	16:06:18	17314	436	-31093	44	T-	pp	-0.0907	2.7170	1.6663	358.8	227.5	101.7	13N	165W
-0514	Aug 17	06:40:14	17306	436	-31087	49	T+	pp	0.0720	2.7345	1.7173	345.7	222.7	101.3	16S	27W
-0513	Feb 10	01:04:06	17299	435	-31081	54	P	a-	0.6322	1.6969	0.6993	305.9	170.2	-	17N	61E
-0513	Aug 06	12:16:07	17292	435	-31075	59	P	t-	-0.6976	1.6109	0.5458	331.0	166.2	-	20S	111W
-0512	Jan 01	05:46:04	17286	435	-31070	26	N	-a	-1.3514	0.3631	-0.6066	156.4	-	-	22N	13W
-0512	Jan 30	15:41:13	17285	435	-31069	64	N	a-	1.2877	0.4776	-0.4873	177.6	-	-	21N	159W
-0512	Jun 25	21:50:03	17279	435	-31064	31	N	-t	1.4084	0.3024	-0.7544	164.2	-	-	22S	104E
-0512	Jul 25	12:45:53	17277	435	-31063	69	N	t-	-1.4406	0.2529	-0.8227	153.4	-	-	23S	119W
-0512	Dec 20	20:22:51	17271	435	-31058	36	P	-a	-0.7195	1.5394	0.5364	295.7	152.1	-	23N	127E
-0511	Jun 15	03:44:15	17264	435	-31052	41	P	-t	0.5941	1.7708	0.7650	319.4	181.2	-	23S	14E
-0511	Dec 10	05:32:32	17257	434	-31046	46	T-	pp	-0.0360	2.8229	1.7616	358.4	226.6	102.4	23N	12W
-0510	Jun 04	16:45:50	17250	434	-31040	51	T-	p-	-0.1909	2.4855	1.5296	321.4	210.9	92.2	22S	178E
-0510	Nov 29	07:23:44	17243	434	-31034	56	P	t-	0.6658	1.6887	0.5850	343.0	172.8	-	21N	41W
-0509	May 25	09:45:08	17235	434	-31028	61	P	a-	-0.9211	1.1375	0.1977	254.2	94.3	-	20S	77W
-0509	Nov 18	06:26:30	17228	434	-31022	66	N	t-	1.3253	0.4748	-0.6212	205.1	-	-	19N	28W
-0508	Apr 14	17:10:59	17222	433	-31017	33	P	-a	0.8901	1.2232	0.2263	279.2	105.9	-	6S	174E
-0508	Oct 07	20:40:31	17215	433	-31011	38	P	-a	-0.8888	1.2315	0.2229	277.2	103.8	-	3N	120E
-0507	Apr 04	00:37:21	17208	433	-31005	43	T+	pp	0.1446	2.6194	1.5665	363.3	229.2	99.7	3S	64E
-0507	Sep 27	10:46:35	17201	433	-30999	48	T-	-p	-0.1711	2.5274	1.5603	318.6	208.5	92.0	1S	91W
-0506	Mar 24	01:44:21	17194	433	-30993	53	P	t-	-0.6095	1.7795	0.7003	347.0	186.1	-	1N	48E
-0506	Sep 17	02:54:51	17186	433	-30987	58	P	a-	0.5185	1.8908	0.9222	303.6	182.9	-	4S	27E
-0505	Feb 11	12:56:44	17180	432	-30982	25	N	-t	1.5015	0.1219	-0.9157	101.5	-	-	17N	117W
-0505	Mar 13	03:00:13	17179	432	-30981	63	N	t-	-1.3194	0.4653	-0.5906	198.2	-	-	5N	29E
-0505	Aug 08	04:17:14	17173	432	-30976	30	N	-h	-1.4744	0.1682	-0.8625	119.1	-	-	20S	9E
-0505	Sep 06	16:23:41	17172	432	-30975	68	N	h-	1.2684	0.5358	-0.4743	198.6	-	-	8S	175W
-0504	Jan 31	23:44:19	17166	432	-30970	35	P	-a	0.7316	1.5088	0.5225	290.2	149.4	-	20N	80E
-0504	Jul 27	08:05:01	17159	432	-30964	40	P	-t	-0.7767	1.4690	0.3976	324.7	146.5	-	22S	49W
-0503	Jan 20	15:07:30	17152	432	-30958	45	T+	pp	0.0325	2.7805	1.8157	319.0	210.6	98.1	21N	152W
-0503	Jul 16	08:23:57	17145	431	-30952	50	T-	pp	-0.0294	2.8380	1.7705	372.1	234.7	105.9	23S	54W
-0502	Jan 10	06:33:57	17137	431	-30946	55	P	a-	-0.6576	1.6457	0.6570	297.5	163.5	-	22N	24W
-0502	Jul 05	12:39:38	17130	431	-30940	60	P	h-	0.7260	1.5364	0.5156	311.2	156.8	-	23S	119W
-0502	Dec 01	01:21:45	17124	431	-30935	27	N	-h	1.5157	0.1161	-0.9615	102.5	-	-	23N	49E
-0502	Dec 30	17:26:12	17123	431	-30934	65	N	h-	-1.4059	0.3011	-0.7438	156.7	-	-	22N	171E
-0501	May 26	16:54:24	17117	431	-30929	32	N	-a	-1.0977	0.8172	-0.1298	225.0	-	-	21S	175E
-0501	Jun 25	00:14:29	17116	431	-30928	70	N	a-	1.4278	0.2213	-0.7450	126.9	-	-	22S	66E
-0501	Nov 20	01:41:13	17110	431	-30923	37	P	-t	0.8791	1.2991	0.1920	316.1	105.6	-	19N	43E
-0500	May 15	10:10:13	17101	430	-30917	42	T	-a	-0.3626	2.1643	1.2205	309.7	198.7	65.9	18S	83W
-0500	Nov 08	01:24:50	17093	430	-30911	47	T+	pp	0.1912	2.5492	1.4658	366.1	226.7	93.8	15N	47E

5TH CENTURY BCE

In the 5th century BCE the total number of lunar eclipses was 242 lunar eclipses: 88 penumbral lunar eclipses, 90 partial lunar eclipses, 64 total lunar eclipses (45 central total lunar eclipses, 19 non-central total lunar eclipses).

	CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN
	DATE	OF	s	SIGMA	NUM	NUM	TYPE			MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG
	GREATEST				S							m	m	m	°	°
ECLIPSE																
-0499 May 05	01:29:25	17084	430	-30905	52	T	p-	0.3971	2.1203	1.1384	323.6	201.9	55.2	14S	47E	
-0499 Oct 28	07:21:16	17075	430	-30899	57	P	a-	-0.5070	1.9407	0.9147	325.0	190.6	-	11N	42W	
-0498 Apr 24	10:40:14	17067	430	-30893	62	N	t-	1.2119	0.6536	-0.3845	228.1	-	-	10S	89W	
-0498 Sep 18	10:15:58	17059	430	-30888	29	N	-a	1.4812	0.1206	-0.8404	92.0	-	-	3S	84W	
-0498 Oct 17	20:10:12	17058	430	-30887	67	N	a-	-1.1556	0.7262	-0.2512	215.8	-	-	6N	126E	
-0497 Mar 14	21:01:49	17051	429	-30882	34	P	-t	-0.8906	1.2639	0.1845	309.9	103.3	-	4N	118E	
-0497 Sep 08	02:12:12	17042	429	-30876	39	P	-a	0.8255	1.3310	0.3553	275.9	125.6	-	8S	38E	
-0496 Mar 02	23:34:38	17033	429	-30870	44	T-	pp	-0.1339	2.6345	1.5903	356.3	225.9	99.2	9N	81E	
-0496 Aug 27	14:14:56	17025	429	-30864	49	T+	pp	0.1182	2.6531	1.6293	346.9	222.2	99.1	12S	142W	
-0495 Feb 20	09:05:59	17016	429	-30858	54	P	a-	0.5981	1.7563	0.7647	307.5	175.6	-	14N	61W	
-0495 Aug 16	19:16:36	17007	428	-30852	59	P	t-	-0.6407	1.7180	0.6475	338.6	178.4	-	16S	143E	
-0494 Jan 11	14:29:30	17000	428	-30847	26	N	-a	-1.3612	0.3445	-0.6239	152.7	-	-	21N	144W	
-0494 Feb 10	00:05:11	16999	428	-30846	64	N	a-	1.2633	0.5205	-0.4407	184.3	-	-	18N	74E	
-0494 Jul 07	04:25:04	16991	428	-30841	31	N	-t	1.4833	0.1647	-0.8914	122.4	-	-	22S	4E	
-0494 Aug 05	19:30:34	16990	428	-30840	69	N	t-	-1.3735	0.3771	-0.7006	185.1	-	-	20S	139E	
-0493 Jan 01	05:00:35	16983	428	-30835	36	P	-a	-0.7267	1.5268	0.5226	295.7	150.9	-	23N	3W	
-0493 Jun 26	10:43:26	16974	428	-30829	41	P	-t	0.6685	1.6330	0.6297	310.7	167.6	-	23S	91W	
-0493 Dec 21	13:51:08	16966	428	-30823	46	T-	pp	-0.0404	2.8157	1.7525	359.6	227.2	102.5	24N	137W	
-0492 Jun 15	00:05:25	16957	427	-30817	51	T-	p-	-0.1153	2.6234	1.6691	322.1	212.9	97.4	23S	68E	
-0492 Dec 09	15:25:51	16948	427	-30811	56	P	t-	0.6612	1.6973	0.5931	343.9	173.9	-	23N	162W	
-0491 Jun 04	17:10:28	16940	427	-30805	61	P	a-	-0.8482	1.2716	0.3312	265.0	119.8	-	23S	171E	

-0491	Nov 28	14:32:41	16931	427	-30799	66	N	t-	1.3185	0.4864	-0.6081	206.9	-	-	22N	150W
-0490	Apr 26	00:21:19	16924	427	-30794	33	P	-a	0.9639	1.0886	0.0901	268.3	68.3	-	10S	65E
-0490	Oct 19	05:07:37	16915	427	-30788	38	P	-a	-0.8983	1.2138	0.2058	274.9	99.8	-	7N	9W
-0489	Apr 15	07:23:57	16907	426	-30782	43	T+	pp	0.2191	2.4828	1.4296	362.2	226.6	92.3	7S	40W
-0489	Oct 08	19:19:47	16898	426	-30776	48	T-	-p	-0.1885	2.4963	1.5277	318.0	207.5	90.4	4N	138E
-0488	Apr 03	08:25:02	16890	426	-30770	53	P	t-	-0.5388	1.9078	0.8317	353.1	198.2	-	3S	55W
-0488	Sep 27	11:18:06	16881	426	-30764	58	P	a-	0.4958	1.9346	0.9616	306.1	185.7	-	0S	101W
-0487	Feb 21	20:39:22	16874	426	-30759	25	N	-t	1.5325	0.0617	-0.9693	72.3	-	-	14N	126E
-0487	Mar 23	10:05:05	16873	426	-30758	63	N	t-	-1.2580	0.5750	-0.4749	217.1	-	-	0N	79W
-0487	Aug 18	11:37:09	16865	426	-30753	30	N	-h	-1.5303	0.0689	-0.9684	77.2	-	-	17S	103W
-0487	Sep 17	00:20:56	16864	426	-30752	68	N	h-	1.2414	0.5885	-0.4280	208.0	-	-	4S	64E
-0486	Feb 11	07:59:16	16857	425	-30747	35	P	-a	0.7557	1.4617	0.4808	286.2	143.9	-	17N	45W
-0486	Aug 07	14:52:13	16848	425	-30741	40	P	-t	-0.8440	1.3476	0.2717	316.1	123.6	-	19S	152W
-0485	Jan 31	23:39:01	16840	425	-30735	45	T+	pp	0.0519	2.7436	1.7815	318.7	210.5	97.9	19N	80E
-0485	Jul 27	15:05:24	16831	425	-30729	50	T-	pp	-0.1026	2.7042	1.6357	370.9	233.1	103.1	21S	156W
-0484	Jan 21	15:05:09	16823	425	-30723	55	P	a-	-0.6456	1.6676	0.6791	299.3	166.0	-	21N	153W
-0484	Jul 15	19:40:30	16814	424	-30717	60	P	h-	0.6521	1.6713	0.6519	318.1	171.9	-	22S	135E
-0484	Dec 11	09:36:31	16807	424	-30712	27	N	-h	1.5213	0.1068	-0.9728	98.7	-	-	24N	75W
-0483	Jan 10	01:43:18	16806	424	-30711	65	N	h-	-1.4007	0.3110	-0.7349	159.6	-	-	22N	47E
-0483	Jun 06	00:17:08	16799	424	-30706	32	N	-a	-1.1681	0.6873	-0.2582	208.7	-	-	23S	64E
-0483	Jul 05	07:36:17	16797	424	-30705	70	N	a-	1.3556	0.3530	-0.6121	157.8	-	-	22S	45W
-0483	Nov 30	09:42:04	16790	424	-30700	37	P	-t	0.8837	1.2908	0.1834	315.4	103.3	-	22N	77W
-0482	May 26	17:34:29	16782	424	-30694	42	T	-a	-0.4367	2.0287	1.0841	306.1	192.4	42.5	20S	164E
-0482	Nov 19	09:35:55	16773	424	-30688	47	T+	pp	0.1945	2.5424	1.4605	365.0	226.1	93.3	19N	77W
-0481	May 16	08:37:42	16765	423	-30682	52	T	p-	0.3227	2.2579	1.2736	328.7	208.6	74.5	17S	61W
-0481	Nov 08	15:52:43	16756	423	-30676	57	P	a-	-0.5017	1.9497	0.9254	324.2	190.8	-	15N	171W
-0480	May 04	17:23:42	16748	423	-30670	62	N	t-	1.1381	0.7898	-0.2500	248.2	-	-	13S	168E
-0480	Sep 28	18:43:17	16741	423	-30665	29	N	-a	1.5017	0.0842	-0.8792	77.1	-	-	1N	147E
-0480	Oct 28	04:52:49	16740	423	-30664	67	N	a-	-1.1463	0.7435	-0.2341	217.6	-	-	10N	6W
-0479	Mar 25	03:52:13	16733	423	-30659	34	P	-t	-0.9522	1.1488	0.0737	298.5	66.3	-	0S	13E
-0479	Sep 18	10:24:45	16724	423	-30653	39	P	-a	0.8559	1.2779	0.2971	272.9	116.1	-	3S	88W
-0478	Mar 14	06:55:28	16716	422	-30647	44	T-	pp	-0.1840	2.5394	1.5017	353.3	223.5	95.0	5N	31W
-0478	Sep 07	21:56:43	16707	422	-30641	49	T+	-p	0.1575	2.5843	1.5539	348.0	221.5	96.4	8S	100E
-0477	Mar 03	17:00:17	16699	422	-30635	54	P	a-	0.5571	1.8285	0.8430	309.6	181.5	-	10N	179E
-0477	Aug 28	02:25:10	16690	422	-30629	59	P	t-	-0.5910	1.8120	0.7360	344.9	187.7	-	13S	34E
-0476	Jan 22	23:05:30	16683	422	-30624	26	N	-a	-1.3771	0.3144	-0.6522	146.4	-	-	20N	87E
-0476	Feb 21	08:19:32	16682	422	-30623	64	N	a-	1.2312	0.5776	-0.3800	192.8	-	-	14N	51W
-0476	Jul 17	11:07:07	16675	422	-30618	31	Ne	-t	1.5527	0.0373	-1.0187	58.8	-	-	21S	97W
-0476	Aug 16	02:25:15	16674	421	-30617	69	N	t-	-1.3138	0.4878	-0.5923	208.3	-	-	17S	34E
-0475	Jan 11	13:32:29	16667	421	-30612	36	P	-a	-0.7380	1.5064	0.5016	295.3	148.7	-	22N	131W

-0475	Jul 06	17:48:38	16658	421	-30606	41	P	-t	0.7390	1.5028	0.5014	301.6	152.1	-	23S	162E
-0475	Dec 31	22:05:41	16650	421	-30600	46	T-	pp	-0.0474	2.8036	1.7391	360.7	227.7	102.5	24N	100E
-0474	Jun 26	07:28:15	16642	421	-30594	51	T-	pp	-0.0419	2.7575	1.8044	322.0	213.6	99.8	24S	44W
-0474	Dec 20	23:26:49	16633	421	-30588	56	P	t-	0.6557	1.7072	0.6033	344.7	175.3	-	24N	78E
-0473	Jun 16	00:34:42	16625	420	-30582	61	P	a-	-0.7744	1.4075	0.4659	274.7	139.4	-	24S	59E
-0473	Dec 09	22:41:18	16616	420	-30576	66	N	t-	1.3131	0.4951	-0.5970	208.1	-	-	24N	88E
-0472	May 06	07:25:19	16609	420	-30571	33	N	-a	1.0416	0.9471	-0.0536	255.1	-	-	14S	43W
-0472	Jun 04	16:29:39	16608	420	-30570	71	Nb	a-	-1.5487	0.0027	-0.9702	14.4	-	-	23S	179E
-0472	Oct 29	13:41:17	16601	420	-30565	38	P	-a	-0.9031	1.2044	0.1974	273.3	97.5	-	11N	139W
-0471	Apr 25	14:04:35	16593	420	-30559	43	T	-t	0.2977	2.3389	1.2852	360.1	222.2	79.7	11S	143W
-0471	Oct 19	03:59:20	16585	420	-30553	48	T-	-p	-0.2006	2.4747	1.5048	317.5	206.8	89.1	8N	7E
-0470	Apr 14	15:00:50	16576	419	-30547	53	P	t-	-0.4636	2.0443	0.9712	358.6	208.8	-	8S	156W
-0470	Oct 08	19:47:00	16568	419	-30541	58	P	a-	0.4782	1.9691	0.9918	308.2	187.8	-	4N	130E
-0469	Apr 03	17:04:57	16560	419	-30535	63	N	t-	-1.1913	0.6944	-0.3496	234.8	-	-	4S	173E
-0469	Sep 28	08:24:55	16551	419	-30529	68	N	h-	1.2204	0.6303	-0.3924	215.4	-	-	1N	59W
-0468	Feb 22	16:05:25	16544	419	-30524	35	P	-a	0.7880	1.3998	0.4243	281.2	136.1	-	13N	168W
-0468	Aug 17	21:48:37	16536	419	-30518	40	P	-t	-0.9035	1.2409	0.1604	307.7	96.6	-	16S	103E
-0467	Feb 11	08:01:40	16528	418	-30512	45	T+	-p	0.0790	2.6925	1.7331	318.2	210.3	97.2	16N	47W
-0467	Aug 06	21:56:52	16520	418	-30506	50	T-	pp	-0.1682	2.5844	1.5148	369.1	230.6	97.9	19S	100E
-0466	Jan 31	23:27:40	16511	418	-30500	55	P	a-	-0.6269	1.7018	0.7135	301.9	169.6	-	18N	81E
-0466	Jul 27	02:50:15	16503	418	-30494	60	P	a-	0.5841	1.7956	0.7772	323.4	183.2	-	21S	27E
-0466	Dec 22	17:47:29	16496	418	-30489	27	N	h-	1.5293	0.0927	-0.9881	92.3	-	-	25N	163E
-0465	Jan 21	09:51:54	16495	418	-30488	65	N	h-	-1.3896	0.3317	-0.7147	165.1	-	-	20N	76W
-0465	Jun 17	07:39:58	16488	418	-30483	32	N	-a	-1.2388	0.5571	-0.3877	190.1	-	-	25S	48W
-0465	Jul 16	15:02:57	16487	417	-30482	70	N	a-	1.2865	0.4795	-0.4849	181.2	-	-	21S	157W
-0465	Dec 11	17:43:24	16480	417	-30477	37	P	-t	0.8880	1.2826	0.1758	314.6	101.3	-	24N	162E
-0464	Jun 06	00:56:35	16471	417	-30471	42	P	-a	-0.5126	1.8904	0.9441	301.6	184.5	-	23S	53E
-0464	Nov 29	17:50:00	16463	417	-30465	47	T+	pp	0.1962	2.5382	1.4586	363.8	225.5	93.0	21N	159E
-0463	May 26	15:42:27	16455	417	-30459	52	T+	pp	0.2461	2.4000	1.4127	333.3	214.1	87.2	20S	169W
-0463	Nov 19	00:29:19	16447	417	-30453	57	P	a-	-0.4995	1.9527	0.9305	323.2	190.6	-	18N	59E
-0462	May 16	00:01:28	16439	416	-30447	62	N	t-	1.0602	0.9337	-0.1081	266.9	-	-	16S	66E
-0462	Oct 10	03:17:35	16432	416	-30442	29	N	-a	1.5169	0.0575	-0.9084	63.9	-	-	6N	16E
-0462	Nov 08	13:40:45	16430	416	-30441	67	N	a-	-1.1411	0.7530	-0.2246	218.5	-	-	14N	139W
-0461	Apr 05	10:36:11	16424	416	-30436	34	Nx	-t	-1.0191	1.0238	-0.0470	284.9	-	-	4S	90W
-0461	Sep 29	18:44:08	16415	416	-30430	39	P	-a	0.8799	1.2365	0.2505	270.7	107.5	-	1N	145E
-0460	Mar 24	14:09:34	16407	416	-30424	44	T-	pp	-0.2405	2.4325	1.4012	349.7	220.3	88.4	0N	142W
-0460	Sep 18	05:46:11	16399	416	-30418	49	T+	-p	0.1895	2.5290	1.4920	349.0	220.8	93.4	4S	19W
-0459	Mar 14	00:48:46	16391	415	-30412	54	P	a-	0.5106	1.9109	0.9311	311.7	187.3	-	5N	59E
-0459	Sep 07	09:41:10	16383	415	-30406	59	P	t-	-0.5477	1.8940	0.8127	350.1	195.0	-	9S	77W
-0458	Feb 02	07:35:15	16376	415	-30401	26	N	-a	-1.3980	0.2753	-0.6897	137.5	-	-	17N	41W

-0458	Mar 03	16:27:48	16374	415	-30400	64	N	a-	1.1942	0.6438	-0.3104	202.0	-	-	10N	174W
-0458	Aug 27	09:29:20	16366	415	-30394	69	N	t-	-1.2609	0.5858	-0.4964	226.0	-	-	14S	73W
-0457	Jan 22	21:57:09	16360	415	-30389	36	P	-a	-0.7548	1.4757	0.4706	294.2	145.1	-	20N	103E
-0457	Jul 18	01:00:16	16351	415	-30383	41	P	-h	0.8049	1.3811	0.3811	292.1	134.6	-	22S	53E
-0456	Jan 12	06:12:50	16343	414	-30377	46	T-	pp	-0.0597	2.7812	1.7162	361.7	228.2	102.5	23N	22W
-0456	Jul 06	14:56:15	16335	414	-30371	51	T+	pp	0.0277	2.7833	1.8305	321.4	213.3	99.8	23S	156W
-0456	Dec 31	07:21:29	16327	414	-30365	56	P	t-	0.6454	1.7256	0.6228	345.9	177.6	-	24N	41W
-0455	Jun 26	08:02:32	16319	414	-30359	61	P	a-	-0.7039	1.5380	0.5944	283.0	154.5	-	24S	54W
-0455	Dec 20	06:47:50	16311	414	-30353	66	N	t-	1.3057	0.5071	-0.5818	209.8	-	-	25N	34W
-0454	May 17	14:24:01	16304	414	-30348	33	N	-h	1.1226	0.8000	-0.2034	239.0	-	-	17S	150W
-0454	Jun 15	23:39:38	16303	414	-30347	71	N	h-	-1.4801	0.1305	-0.8462	99.6	-	-	25S	71E
-0454	Nov 09	22:20:06	16296	413	-30342	38	P	-a	-0.9045	1.2011	0.1955	272.2	96.8	-	15N	90E
-0453	May 06	20:37:46	16288	413	-30336	43	T	-t	0.3814	2.1857	1.1310	356.8	215.6	57.1	14S	117E
-0453	Oct 30	12:45:22	16280	413	-30330	48	T-	-p	-0.2078	2.4620	1.4910	317.2	206.3	88.3	12N	126W
-0452	Apr 24	21:28:39	16272	413	-30324	53	T	t-	-0.3813	2.1938	1.1235	363.5	217.9	56.1	11S	105E
-0452	Oct 19	04:23:30	16264	413	-30318	58	T	p-	0.4671	1.9914	1.0101	309.9	189.2	15.1	9N	1W
-0451	Apr 13	23:59:12	16256	412	-30312	63	N	t-	-1.1186	0.8248	-0.2135	251.5	-	-	8S	68E
-0451	Oct 08	16:35:18	16247	412	-30306	68	N	h-	1.2051	0.6614	-0.3673	220.9	-	-	5N	176E
-0450	Mar 05	00:05:33	16241	412	-30301	35	P	-a	0.8259	1.3276	0.3573	275.2	125.9	-	9N	70E
-0450	Aug 29	04:52:41	16233	412	-30295	40	P	-t	-0.9563	1.1462	0.0611	299.5	60.6	-	13S	5W
-0449	Feb 22	16:17:06	16225	412	-30289	45	T+	-p	0.1121	2.6305	1.6738	317.7	209.8	96.0	12N	172W
-0449	Aug 18	04:56:35	16217	412	-30283	50	T-	pp	-0.2276	2.4760	1.4051	366.8	227.2	90.8	16S	6W
-0448	Feb 12	07:42:30	16208	411	-30277	55	P	a-	-0.6024	1.7466	0.7586	304.9	174.0	-	15N	44W
-0448	Aug 06	10:08:46	16201	411	-30271	60	P	a-	0.5222	1.9087	0.8910	327.4	191.6	-	18S	84W
-0447	Jan 02	01:53:16	16194	411	-30266	27	N	-t	1.5410	0.0717	-1.0099	81.5	-	-	25N	41E
-0447	Jan 31	17:52:07	16192	411	-30265	65	N	t-	-1.3723	0.3635	-0.6832	172.8	-	-	18N	163E
-0447	Jun 27	15:07:33	16186	411	-30260	32	N	-a	-1.3061	0.4336	-0.5110	169.5	-	-	25S	160W
-0447	Jul 26	22:37:45	16185	411	-30259	70	N	a-	1.2231	0.5957	-0.3686	199.2	-	-	20S	88E
-0447	Dec 22	01:42:21	16178	411	-30254	37	P	-t	0.8945	1.2699	0.1644	313.4	98.1	-	24N	42E
-0446	Jun 17	08:19:39	16170	411	-30248	42	P	-a	-0.5872	1.7545	0.8060	296.4	174.8	-	24S	59W
-0446	Dec 11	02:04:14	16162	410	-30242	47	T+	pp	0.1985	2.5324	1.4558	362.5	225.0	92.7	23N	35E
-0445	Jun 06	22:45:38	16154	410	-30236	52	T+	pp	0.1687	2.5439	1.5529	337.1	218.2	95.6	22S	84E
-0445	Nov 30	09:07:06	16146	410	-30230	57	P	a-	-0.4977	1.9545	0.9351	322.1	190.4	-	21N	71W
-0444	May 26	06:36:01	16138	410	-30224	62	P	t-	0.9801	1.0821	0.0378	283.9	46.7	-	19S	34W
-0444	Oct 20	11:58:46	16131	410	-30219	29	N	-a	1.5271	0.0399	-0.9281	53.4	-	-	10N	116W
-0444	Nov 18	22:31:30	16130	410	-30218	67	N	a-	-1.1378	0.7587	-0.2183	218.9	-	-	17N	87E
-0443	Apr 15	17:14:03	16123	410	-30213	34	N	-t	-1.0910	0.8899	-0.1769	268.7	-	-	9S	168E
-0443	Oct 10	03:10:05	16115	409	-30207	39	P	-a	0.8982	1.2054	0.2145	269.1	100.2	-	5N	17E
-0442	Apr 04	21:17:59	16107	409	-30201	44	T	-p	-0.3027	2.3153	1.2902	345.4	215.8	78.2	4S	109E
-0442	Sep 29	13:43:21	16099	409	-30195	49	T+	-p	0.2144	2.4864	1.4432	350.0	220.1	90.6	0N	140W

-0441	Mar 25	08:28:28	16091	409	-30189	54	T	a-	0.4558	2.0085	1.0344	314.1	193.3	28.0	1N	58W
-0441	Sep 18	17:06:40	16083	409	-30183	59	P	t-	-0.5125	1.9613	0.8748	354.2	200.3	-	5S	170E
-0440	Feb 13	15:56:06	16077	409	-30178	26	N	-a	-1.4263	0.2224	-0.7407	124.3	-	-	14N	168W
-0440	Mar 14	00:26:39	16075	409	-30177	64	N	a-	1.1492	0.7247	-0.2263	212.4	-	-	6N	64E
-0440	Sep 06	16:44:19	16068	408	-30171	69	N	t-	-1.2159	0.6695	-0.4149	239.5	-	-	10S	176E
-0439	Feb 02	06:13:04	16061	408	-30166	36	P	-a	-0.7783	1.4326	0.4273	292.2	139.6	-	18N	22W
-0439	Jul 28	08:20:24	16053	408	-30160	41	P	-h	0.8649	1.2706	0.2716	282.7	115.1	-	20S	58W
-0438	Jan 22	14:13:36	16045	408	-30154	46	T-	pp	-0.0766	2.7503	1.6851	362.5	228.5	102.1	21N	143W
-0438	Jul 17	22:28:17	16037	408	-30148	51	T+	pp	0.0944	2.6610	1.7080	320.3	212.1	97.8	22S	90E
-0437	Jan 11	15:12:32	16029	408	-30142	56	P	t-	0.6321	1.7492	0.6482	347.3	180.5	-	23N	158W
-0437	Jul 07	15:32:07	16021	407	-30136	61	P	a-	-0.6350	1.6656	0.7195	290.4	166.7	-	24S	167W
-0437	Dec 31	14:51:58	16013	407	-30130	66	N	h-	1.2954	0.5240	-0.5611	212.3	-	-	25N	155W
-0436	May 27	21:19:16	16007	407	-30125	33	N	-h	1.2052	0.6499	-0.3567	219.7	-	-	19S	105E
-0436	Jun 26	06:50:36	16006	407	-30124	71	N	h-	-1.4127	0.2563	-0.7246	138.5	-	-	25S	37W
-0436	Nov 20	07:02:50	15999	407	-30119	38	P	-a	-0.9036	1.2020	0.1982	271.5	97.2	-	18N	41W
-0435	May 17	03:08:04	15991	407	-30113	43	P	-t	0.4671	2.0292	0.9732	352.1	206.6	-	17S	18E
-0435	Nov 09	21:34:26	15983	406	-30107	48	T-	-p	-0.2129	2.4531	1.4814	316.9	206.0	87.7	16N	100E
-0434	May 06	03:54:32	15975	406	-30101	53	T	tp	-0.2970	2.3474	1.2795	367.3	225.1	80.0	15S	6E
-0434	Oct 30	13:04:09	15968	406	-30095	58	T	p-	0.4599	2.0066	1.0217	311.3	190.2	22.0	13N	133W
-0433	Apr 25	06:49:07	15960	406	-30089	63	N	t-	-1.0411	0.9643	-0.0687	266.9	-	-	12S	37W
-0433	Oct 20	00:51:47	15952	406	-30083	68	N	h-	1.1953	0.6820	-0.3522	224.9	-	-	9N	50E
-0432	Mar 15	07:57:27	15945	406	-30078	35	P	-a	0.8712	1.2419	0.2768	267.9	111.8	-	5N	50W
-0432	Sep 08	12:06:34	15937	405	-30072	40	Nx	-t	-1.0009	1.0667	-0.0227	291.9	-	-	9S	115W
-0431	Mar 05	00:23:15	15930	405	-30066	45	T+	-p	0.1530	2.5541	1.5998	316.9	208.9	93.8	8N	64E
-0431	Aug 28	12:08:12	15922	405	-30060	50	T	pp	-0.2780	2.3843	1.3122	364.2	223.6	82.4	12S	115W
-0430	Feb 22	15:47:43	15914	405	-30054	55	P	a-	-0.5705	1.8049	0.8173	308.4	179.3	-	12N	167W
-0430	Aug 17	17:36:44	15906	405	-30048	60	P	a-	0.4669	2.0099	0.9926	330.4	197.9	-	15S	163E
-0429	Jan 13	09:52:33	15900	405	-30043	27	N	-t	1.5572	0.0419	-1.0396	62.6	-	-	24N	78W
-0429	Feb 12	01:42:23	15898	405	-30042	65	N	t-	-1.3479	0.4084	-0.6382	183.0	-	-	14N	45E
-0429	Jul 08	22:38:18	15892	404	-30037	32	N	-a	-1.3713	0.3142	-0.6311	145.8	-	-	25S	87E
-0429	Aug 07	06:19:51	15891	404	-30036	70	N	a-	1.1649	0.7029	-0.2618	213.6	-	-	17S	28W
-0428	Jan 02	09:36:52	15884	404	-30031	37	P	-t	0.9046	1.2503	0.1470	311.3	93.0	-	24N	76W
-0428	Jun 27	15:43:59	15876	404	-30025	42	P	-a	-0.6605	1.6216	0.6701	290.5	163.3	-	24S	171W
-0428	Dec 21	10:18:20	15868	404	-30019	47	T+	pp	0.2019	2.5241	1.4514	361.1	224.3	92.3	24N	88W
-0427	Jun 17	05:47:53	15861	404	-30013	52	T+	pp	0.0915	2.6877	1.6925	340.1	221.0	100.7	23S	22W
-0427	Dec 10	17:46:07	15853	404	-30007	57	P	a-	-0.4961	1.9558	0.9396	321.0	190.2	-	22N	159E
-0426	Jun 06	13:08:14	15845	403	-30001	62	P	t-	0.8983	1.2336	0.1864	299.2	102.0	-	21S	133W
-0426	Oct 31	20:45:41	15839	403	-29996	29	N	-a	1.5330	0.0301	-0.9398	46.4	-	-	14N	111E
-0426	Nov 30	07:24:54	15837	403	-29995	67	N	a-	-1.1368	0.7601	-0.2160	218.8	-	-	20N	47W
-0425	Apr 26	23:46:10	15831	403	-29990	34	N	-t	-1.1675	0.7476	-0.3155	249.2	-	-	13S	68E

-0425	Oct 21	11:42:26	15823	403	-29984	39	P	-a	0.9107	1.1848	0.1892	268.4	94.7	-	10N	113W
-0424	Apr 15	04:21:43	15815	403	-29978	44	T	-p	-0.3698	2.1892	1.1700	340.2	209.9	62.2	8S	0E
-0424	Oct 09	21:46:29	15808	403	-29972	49	T+	-p	0.2335	2.4543	1.4052	351.1	219.6	88.1	5N	97E
-0423	Apr 04	16:04:00	15800	402	-29966	54	T	a-	0.3969	2.1141	1.1452	316.4	198.7	55.5	3S	174W
-0423	Sep 29	00:39:58	15792	402	-29960	59	P	t-	-0.4837	2.0164	0.9252	357.5	204.4	-	0S	54E
-0422	Feb 24	00:09:55	15786	402	-29955	26	N	-a	-1.4600	0.1597	-0.8017	106.0	-	-	10N	67E
-0422	Mar 25	08:19:39	15784	402	-29954	64	N	a-	1.0996	0.8142	-0.1339	222.9	-	-	2N	57W
-0422	Sep 18	00:08:16	15777	402	-29948	69	N	t-	-1.1775	0.7410	-0.3454	250.0	-	-	5S	63E
-0421	Feb 13	14:20:22	15770	402	-29943	36	P	-a	-0.8080	1.3781	0.3727	289.3	131.9	-	14N	145W
-0421	Aug 08	15:49:17	15763	402	-29937	41	P	-a	0.9182	1.1725	0.1740	273.6	93.1	-	17S	171W
-0420	Feb 02	22:03:19	15755	401	-29931	46	T-	pp	-0.1016	2.7043	1.6394	363.1	228.6	101.3	18N	99E
-0420	Jul 28	06:08:22	15747	401	-29925	51	T+	-p	0.1546	2.5510	1.5973	318.8	210.2	94.3	20S	26W
-0419	Jan 21	22:54:52	15739	401	-29919	56	P	t-	0.6122	1.7844	0.6858	349.1	184.6	-	21N	86E
-0419	Jul 17	23:06:56	15732	401	-29913	61	P	a-	-0.5709	1.7848	0.8356	296.7	176.4	-	23S	79E
-0418	Jan 10	22:50:48	15724	401	-29907	66	N	h-	1.2805	0.5490	-0.5314	216.1	-	-	24N	86E
-0418	Jun 08	04:12:32	15718	401	-29902	33	N	-h	1.2880	0.5000	-0.5105	196.4	-	-	21S	1E
-0418	Jul 07	14:03:41	15716	400	-29901	71	N	h-	-1.3478	0.3779	-0.6080	167.0	-	-	25S	146W
-0418	Dec 01	15:47:28	15710	400	-29896	38	P	-a	-0.9017	1.2042	0.2029	270.8	98.1	-	21N	173W
-0417	May 28	09:32:52	15702	400	-29890	43	P	-t	0.5563	1.8665	0.8087	345.8	194.4	-	20S	80W
-0417	Nov 21	06:27:42	15695	400	-29884	48	T-	-p	-0.2144	2.4504	1.4784	316.8	205.8	87.5	19N	34W
-0416	May 16	10:16:12	15687	400	-29878	53	T-	pp	-0.2089	2.5078	1.4419	370.1	230.4	94.4	18S	91W
-0416	Nov 09	21:49:09	15679	400	-29872	58	T	p-	0.4568	2.0138	1.0256	312.4	190.8	23.9	16N	95E
-0415	May 05	13:36:40	15672	399	-29866	63	P	t-	-0.9606	1.1097	0.0815	280.6	67.1	-	15S	141W
-0415	Oct 30	09:13:48	15664	399	-29860	68	N	h-	1.1911	0.6924	-0.3469	227.3	-	-	13N	77W
-0414	Mar 26	15:43:30	15658	399	-29855	35	P	-a	0.9218	1.1466	0.1862	259.3	92.8	-	1N	168W
-0414	Sep 19	19:28:32	15650	399	-29849	40	N	-t	-1.0385	0.9996	-0.0939	285.1	-	-	4S	133E
-0413	Mar 16	08:22:35	15642	399	-29843	45	T+	-p	0.1996	2.4675	1.5155	315.8	207.4	90.1	4N	57W
-0413	Sep 08	19:29:40	15635	399	-29837	50	T	-p	-0.3211	2.3059	1.2325	361.7	219.9	73.1	8S	133E
-0412	Mar 04	23:43:34	15627	398	-29831	55	P	a-	-0.5314	1.8765	0.8892	312.5	185.3	-	8N	73E
-0412	Aug 28	01:15:14	15620	398	-29825	60	T	a-	0.4193	2.0972	1.0801	332.3	202.4	43.3	12S	46E
-0411	Jan 23	17:44:18	15613	398	-29820	27	Ne	-t	1.5790	0.0016	-1.0794	12.4	-	-	22N	163E
-0411	Feb 22	09:23:27	15612	398	-29819	65	N	t-	-1.3165	0.4660	-0.5805	195.0	-	-	11N	72W
-0411	Jul 19	06:14:58	15606	398	-29814	32	N	-a	-1.4319	0.2035	-0.7428	118.4	-	-	24S	28W
-0411	Aug 17	14:10:08	15604	398	-29813	70	N	a-	1.1127	0.7988	-0.1665	225.1	-	-	14S	147W
-0410	Jan 12	17:26:02	15598	398	-29808	37	P	-t	0.9192	1.2221	0.1216	308.4	84.8	-	23N	167E
-0410	Jul 08	23:11:45	15590	398	-29802	42	P	-a	-0.7305	1.4949	0.5400	284.0	149.9	-	24S	77E
-0409	Jan 01	18:28:31	15583	397	-29796	47	T+	pp	0.2092	2.5086	1.4404	359.4	223.5	91.4	24N	150E
-0409	Jun 28	12:50:24	15575	397	-29790	52	T+	pp	0.0154	2.8297	1.8298	342.4	222.6	102.7	24S	129W
-0409	Dec 22	02:23:11	15568	397	-29784	57	P	a-	-0.4922	1.9610	0.9488	320.0	190.3	-	23N	30E
-0408	Jun 16	19:40:40	15560	397	-29778	62	P	t-	0.8170	1.3845	0.3338	312.7	133.9	-	23S	128E

-0408	Nov 11	05:35:43	15554	397	-29773	29	N	-a	1.5368	0.0238	-0.9475	41.3	-	-	18N	22W
-0408	Dec 10	16:16:39	15553	397	-29772	67	N	a-	-1.1342	0.7642	-0.2104	219.0	-	-	22N	180E
-0407	May 07	06:15:23	15546	397	-29767	34	N	-t	-1.2466	0.6008	-0.4589	226.0	-	-	16S	31W
-0407	Oct 31	20:19:40	15539	396	-29761	39	P	-a	0.9191	1.1715	0.1716	268.2	90.6	-	14N	116E
-0406	Apr 26	11:20:58	15531	396	-29755	44	T	-t	-0.4415	2.0549	1.0411	334.2	202.4	31.8	12S	107W
-0406	Oct 21	05:56:06	15524	396	-29749	49	T+	-p	0.2466	2.4330	1.3783	352.3	219.3	86.1	9N	27W
-0405	Apr 15	23:32:54	15516	396	-29743	54	T	a-	0.3314	2.2319	1.2677	318.4	203.7	72.3	7S	71E
-0405	Oct 10	08:22:09	15508	396	-29737	59	P	t-	-0.4626	2.0573	0.9618	360.1	207.2	-	4N	63W
-0404	Mar 06	08:13:23	15502	396	-29732	26	N	-a	-1.5019	0.0820	-0.8777	76.6	-	-	6N	56W
-0404	Apr 04	16:03:50	15501	396	-29731	64	N	a-	1.0427	0.9174	-0.0283	234.0	-	-	3S	175W
-0404	Sep 28	07:43:35	15493	395	-29725	69	N	t-	-1.1476	0.7967	-0.2913	257.5	-	-	1S	53W
-0403	Feb 23	22:18:22	15487	395	-29720	36	P	-a	-0.8446	1.3110	0.3056	285.3	121.0	-	11N	94E
-0403	Aug 18	23:26:51	15480	395	-29714	41	P	-a	0.9652	1.0861	0.0879	265.0	66.7	-	14S	73E
-0402	Feb 13	05:45:06	15472	395	-29708	46	T-	pp	-0.1324	2.6476	1.5831	363.5	228.4	99.6	15N	17W
-0402	Aug 08	13:54:33	15465	395	-29702	51	T+	-p	0.2099	2.4500	1.4951	317.1	207.7	89.3	18S	143W
-0401	Feb 02	06:30:06	15457	395	-29696	56	P	t-	0.5862	1.8307	0.7350	351.3	189.5	-	19N	29W
-0401	Jul 29	06:45:41	15450	394	-29690	61	P	a-	-0.5102	1.8980	0.9451	302.1	184.3	-	21S	36W
-0400	Jan 22	06:44:57	15442	394	-29684	66	N	h-	1.2609	0.5824	-0.4929	221.1	-	-	22N	33W
-0400	Jun 18	11:05:34	15436	394	-29679	33	N	-h	1.3697	0.3522	-0.6626	167.9	-	-	22S	103W
-0400	Jul 17	21:20:25	15435	394	-29678	71	N	h-	-1.2862	0.4935	-0.4977	189.7	-	-	24S	105E
-0400	Dec 12	00:31:40	15428	394	-29673	38	P	-a	-0.9009	1.2042	0.2058	270.0	98.5	-	22N	56E

4TH CENTURY BCE

In the 4th century BCE the total number of lunar eclipses was 229 lunar eclipses: 80 penumbral lunar eclipses, 61 partial lunar eclipses, 88 total lunar eclipses (34 central total lunar eclipses, 54 non-central total lunar eclipses).

-0399	Jun 07	15:58:27	15421	394	-29667	43	P	-t	0.6440	1.7065	0.6466	338.2	179.0	-	22S	177W
-0399	Dec 01	15:21:35	15414	394	-29661	48	T-	-p	-0.2156	2.4482	1.4764	316.6	205.7	87.4	21N	168W
-0398	May 27	16:37:39	15406	393	-29655	53	T-	pp	-0.1202	2.6698	1.6057	371.6	233.7	102.7	20S	173E
-0398	Nov 21	06:36:00	15399	393	-29649	58	T	p-	0.4557	2.0173	1.0264	313.4	191.2	24.3	20N	38W
-0397	May 16	20:23:14	15391	393	-29643	63	P	t-	-0.8780	1.2589	0.2352	292.7	111.1	-	18S	116E
-0397	Nov 10	17:38:40	15384	393	-29637	68	N	h-	1.1895	0.6976	-0.3462	228.9	-	-	17N	156E
-0396	Apr 05	23:22:26	15377	393	-29632	35	P	-a	0.9791	1.0393	0.0833	249.1	62.8	-	3S	75E
-0396	Sep 30	03:00:37	15370	393	-29626	40	N	-t	-1.0680	0.9474	-0.1498	279.4	-	-	0S	18E
-0395	Mar 26	16:13:48	15363	392	-29620	45	T+	-p	0.2532	2.3682	1.4181	314.3	205.2	84.4	0N	177W
-0395	Sep 19	03:01:40	15355	392	-29614	50	T	-p	-0.3563	2.2417	1.1674	359.2	216.4	63.3	4S	18E
-0394	Mar 16	07:29:46	15348	392	-29608	55	P	a-	-0.4849	1.9618	0.9745	316.9	191.6	-	4N	46W
-0394	Sep 08	09:04:08	15340	392	-29602	60	T	a-	0.3792	2.1708	1.1537	333.6	205.5	58.5	8S	73W
-0393	Mar 05	16:52:09	15333	392	-29596	65	N	t-	-1.2760	0.5401	-0.5061	209.1	-	-	7N	174E
-0393	Jul 30	13:57:00	15327	392	-29591	32	N	-a	-1.4885	0.1007	-0.8474	84.0	-	-	22S	144W
-0393	Aug 28	22:09:18	15325	392	-29590	70	N	a-	1.0674	0.8826	-0.0838	234.1	-	-	11S	91E
-0392	Jan 24	01:08:10	15319	391	-29585	37	P	-t	0.9396	1.1829	0.0860	304.2	71.6	-	21N	51E
-0392	Jul 19	06:43:14	15312	391	-29579	42	P	-a	-0.7969	1.3752	0.4162	277.1	134.4	-	23S	36W
-0391	Jan 12	02:34:44	15304	391	-29573	47	T+	pp	0.2206	2.4851	1.4220	357.5	222.5	90.1	23N	28E
-0391	Jul 08	19:55:15	15297	391	-29567	52	T-	pp	-0.0579	2.7542	1.7491	343.9	222.8	102.1	23S	125E
-0390	Jan 01	10:58:59	15290	391	-29561	57	P	a-	-0.4865	1.9693	0.9615	319.1	190.7	-	23N	99W
-0390	Jun 28	02:12:24	15282	391	-29555	62	P	t-	0.7355	1.5360	0.4815	324.7	157.5	-	23S	30E
-0390	Nov 22	14:29:11	15276	390	-29550	29	N	-a	1.5381	0.0219	-0.9506	39.6	-	-	21N	156W
-0390	Dec 22	01:08:21	15275	390	-29549	67	N	a-	-1.1315	0.7682	-0.2046	219.2	-	-	23N	47E
-0389	May 18	12:42:28	15269	390	-29544	34	N	-t	-1.3277	0.4505	-0.6061	198.0	-	-	19S	129W
-0389	Jun 17	03:08:59	15268	390	-29543	72	N	t-	1.4989	0.1424	-0.9261	116.1	-	-	22S	15E
-0389	Nov 12	05:00:25	15261	390	-29538	39	P	-a	0.9240	1.1644	0.1608	268.5	88.1	-	17N	15W
-0388	May 06	18:18:28	15254	390	-29532	44	P	-t	-0.5155	1.9165	0.9077	327.2	193.0	-	16S	147E
-0388	Oct 31	14:10:10	15247	390	-29526	49	T+	-p	0.2554	2.4194	1.3598	353.6	219.3	84.7	13N	152W
-0387	Apr 26	06:59:42	15239	390	-29520	54	T+	p-	0.2636	2.3541	1.3942	320.0	207.6	83.8	11S	42W
-0387	Oct 20	16:09:25	15232	389	-29514	59	P	t-	-0.4459	2.0898	0.9906	362.1	209.3	-	8N	178E
-0386	Apr 15	23:43:52	15225	389	-29508	64	P	a-	0.9824	1.0271	0.0833	244.7	62.2	-	7S	68E
-0386	Oct 09	15:27:17	15217	389	-29502	69	N	t-	-1.1238	0.8409	-0.2483	263.0	-	-	3N	170W
-0385	Mar 07	06:05:27	15211	389	-29497	36	P	-a	-0.8894	1.2289	0.2235	279.7	105.1	-	7N	25W
-0385	Aug 30	07:14:36	15204	389	-29491	41	P	-a	1.0047	1.0136	0.0154	257.1	28.1	-	10S	45W
-0384	Feb 24	13:14:49	15196	389	-29485	46	T-	pp	-0.1724	2.5739	1.5101	363.4	227.5	96.6	11N	131W
-0384	Aug 18	21:49:55	15189	388	-29479	51	T+	-p	0.2580	2.3627	1.4063	315.3	205.1	83.6	15S	96E
-0383	Feb 12	13:54:49	15182	388	-29473	56	P	t-	0.5517	1.8923	0.8000	354.1	195.5	-	16N	141W
-0383	Aug 08	14:32:07	15175	388	-29467	61	T	a-	-0.4564	1.9988	1.0419	306.6	190.4	30.4	18S	154W
-0382	Feb 01	14:31:54	15167	388	-29461	66	N	h-	1.2349	0.6274	-0.4423	227.6	-	-	20N	150W

-0382	Jun 29	17:58:12	15161	388	-29456	33	N	-h	1.4503	0.2069	-0.8128	131.0	-	-	22S	153E
-0382	Jul 29	04:40:41	15160	388	-29455	71	N	h-	-1.2283	0.6027	-0.3943	208.4	-	-	22S	6W
-0382	Dec 23	09:15:01	15154	388	-29450	38	P	-a	-0.9013	1.2016	0.2067	268.9	98.5	-	23N	75W
-0381	Jun 18	22:22:40	15147	387	-29444	43	P	-t	0.7318	1.5469	0.4843	329.1	159.3	-	23S	86E
-0381	Dec 13	00:15:32	15139	387	-29438	48	T-	-p	-0.2167	2.4458	1.4746	316.5	205.6	87.3	23N	59E
-0380	Jun 06	22:59:01	15132	387	-29432	53	T-	pp	-0.0310	2.8328	1.7699	371.9	235.1	106.2	22S	76E
-0380	Dec 01	15:24:29	15125	387	-29426	58	T	p-	0.4567	2.0166	1.0233	314.2	191.4	22.9	22N	170W
-0379	May 27	03:09:58	15117	387	-29420	63	P	h-	-0.7943	1.4106	0.3908	303.2	139.5	-	21S	13E
-0379	Nov 21	02:05:53	15110	387	-29414	68	N	h-	1.1906	0.6975	-0.3502	229.8	-	-	20N	29E
-0378	Apr 17	06:57:07	15104	386	-29409	35	N	-a	1.0402	0.9252	-0.0269	237.3	-	-	7S	41W
-0378	May 16	14:32:34	15103	386	-29408	73	Nb	a-	-1.4960	0.0964	-0.8706	84.9	-	-	19S	158W
-0378	Oct 11	10:40:32	15097	386	-29403	40	N	-t	-1.0909	0.9071	-0.1935	274.9	-	-	4N	99W
-0377	Apr 06	23:57:11	15090	386	-29397	45	T	-p	0.3131	2.2577	1.3090	312.2	201.9	75.5	4S	65E
-0377	Sep 30	10:43:37	15082	386	-29391	50	T	-p	-0.3840	2.1914	1.1162	356.9	213.3	53.5	0N	100W
-0376	Mar 26	15:07:17	15075	386	-29385	55	T	p-	-0.4321	2.0589	1.0713	321.4	197.9	40.3	1S	162W
-0376	Sep 18	17:02:29	15068	386	-29379	60	T	a-	0.3462	2.2312	1.2143	334.2	207.7	67.4	3S	166E
-0375	Mar 16	00:11:51	15061	385	-29373	65	N	t-	-1.2289	0.6265	-0.4197	224.0	-	-	3N	62E
-0375	Aug 09	21:46:39	15055	385	-29368	32	Ne	-a	-1.5391	0.0089	-0.9412	25.2	-	-	19S	97E
-0375	Sep 08	06:17:14	15053	385	-29367	70	N	a-	1.0290	0.9536	-0.0141	241.1	-	-	7S	32W
-0374	Feb 03	08:43:05	15047	385	-29362	37	P	-t	0.9659	1.1326	0.0396	298.7	48.9	-	19N	63W
-0374	Jul 30	14:19:03	15040	385	-29356	42	P	-a	-0.8590	1.2634	0.2998	269.9	116.3	-	21S	151W
-0373	Jan 23	10:35:17	15033	385	-29350	47	T+	pp	0.2375	2.4512	1.3938	355.3	221.2	87.9	21N	92W
-0373	Jul 20	03:03:32	15026	385	-29344	52	T-	pp	-0.1277	2.6292	1.6183	344.8	222.0	99.0	22S	17E
-0372	Jan 12	19:28:35	15019	384	-29338	57	P	a-	-0.4748	1.9882	0.9853	318.5	191.7	-	22N	133E
-0372	Jul 08	08:48:18	15011	384	-29332	62	P	t-	0.6576	1.6810	0.6223	335.0	175.5	-	23S	70W
-0372	Dec 02	23:22:53	15005	384	-29327	29	N	-a	1.5398	0.0191	-0.9540	37.0	-	-	23N	70E
-0371	Jan 01	09:55:40	15004	384	-29326	67	N	a-	-1.1249	0.7792	-0.1914	220.2	-	-	22N	85W
-0371	May 28	19:09:40	14998	384	-29321	34	N	-t	-1.4086	0.3007	-0.7533	163.6	-	-	22S	133E
-0371	Jun 27	09:32:12	14997	384	-29320	72	N	t-	1.4149	0.2967	-0.7723	165.1	-	-	22S	82W
-0371	Nov 22	13:42:33	14991	384	-29315	39	P	-a	0.9275	1.1598	0.1528	269.0	86.2	-	20N	146W
-0370	May 18	01:14:32	14984	384	-29309	44	P	-t	-0.5918	1.7743	0.7701	319.1	181.5	-	19S	42E
-0370	Nov 11	22:28:16	14977	383	-29303	49	T+	p-	0.2600	2.4131	1.3492	354.9	219.4	84.0	17N	82E
-0369	May 07	14:21:02	14969	383	-29297	54	T+	p-	0.1905	2.4863	1.5300	321.2	210.8	92.1	15S	154W
-0369	Nov 01	00:04:15	14962	383	-29291	59	T	t-	-0.4357	2.1102	1.0079	363.5	210.6	14.7	13N	58E
-0368	Apr 26	07:17:25	14955	383	-29285	64	P	a-	0.9167	1.1470	0.2046	255.2	95.9	-	11S	48W
-0368	Oct 19	23:19:45	14948	383	-29279	69	N	t-	-1.1065	0.8731	-0.2168	266.7	-	-	8N	70E
-0367	Mar 17	13:43:27	14942	383	-29274	36	P	-a	-0.9408	1.1347	0.1290	272.5	81.2	-	2N	141W
-0367	Sep 09	15:12:14	14935	382	-29268	41	N	-a	1.0371	0.9543	-0.0440	250.3	-	-	6S	167W
-0366	Mar 06	20:35:47	14928	382	-29262	46	T-	-p	-0.2188	2.4883	1.4254	362.9	226.0	91.7	7N	117E
-0366	Aug 30	05:52:11	14920	382	-29256	51	T	-p	0.3004	2.2857	1.3274	313.5	202.3	77.1	11S	26W

-0365	Feb 23	21:12:07	14913	382	-29250	56	P	t-	0.5110	1.9651	0.8764	357.1	201.8	-	12N	109E
-0365	Aug 19	22:24:32	14906	382	-29244	61	T	p-	-0.4081	2.0896	1.1282	310.4	195.2	51.8	15S	87E
-0364	Feb 12	22:11:38	14899	382	-29238	66	N	h-	1.2023	0.6841	-0.3796	235.4	-	-	16N	94E
-0364	Jul 10	00:54:14	14893	381	-29233	33	Ne	-h	1.5266	0.0696	-0.9554	77.3	-	-	22S	48E
-0364	Aug 08	12:07:25	14892	381	-29232	71	N	h-	-1.1764	0.7010	-0.3022	223.6	-	-	19S	119W
-0363	Jan 02	17:55:23	14886	381	-29227	38	P	-a	-0.9045	1.1939	0.2029	267.4	97.4	-	23N	155E
-0363	Jun 29	04:49:50	14879	381	-29221	43	P	-t	0.8163	1.3932	0.3277	318.6	134.5	-	23S	11W
-0363	Dec 23	09:06:41	14872	381	-29215	48	T-	-p	-0.2201	2.4390	1.4689	316.3	205.5	86.9	23N	74W
-0362	Jun 18	05:23:33	14865	381	-29209	53	T+	pp	0.0559	2.7866	1.7247	371.1	234.5	105.5	23S	20W
-0362	Dec 13	00:11:00	14857	381	-29203	58	T	p-	0.4565	2.0179	1.0229	315.1	191.7	22.8	24N	58E
-0361	Jun 07	09:58:02	14850	380	-29197	63	P	h-	-0.7103	1.5630	0.5466	312.1	160.5	-	23S	90W
-0361	Dec 02	10:32:50	14843	380	-29191	68	N	h-	1.1923	0.6960	-0.3548	230.4	-	-	23N	98W
-0360	Apr 27	14:26:56	14837	380	-29186	35	N	-a	1.1057	0.8033	-0.1455	223.4	-	-	11S	155W
-0360	May 26	21:47:35	14836	380	-29185	73	N	a-	-1.4188	0.2366	-0.7273	130.8	-	-	22S	92E
-0360	Oct 21	18:27:18	14830	380	-29180	40	N	-t	-1.1080	0.8769	-0.2262	271.3	-	-	9N	142E
-0359	Apr 17	07:34:24	14823	380	-29174	45	T	-a	0.3779	2.1383	1.1905	309.4	197.4	61.8	8S	52W
-0359	Oct 10	18:35:33	14816	380	-29168	50	T	-p	-0.4039	2.1551	1.0795	354.9	210.8	44.7	5N	141E
-0358	Apr 06	22:35:13	14809	379	-29162	55	T	p-	-0.3720	2.1695	1.1812	326.0	204.1	62.3	5S	83E
-0358	Sep 30	01:10:52	14802	379	-29156	60	T	p-	0.3207	2.2780	1.2612	334.4	209.0	73.0	1N	42E
-0357	Mar 27	07:20:05	14795	379	-29150	65	N	t-	-1.1734	0.7283	-0.3179	239.8	-	-	1S	47W
-0357	Sep 19	14:34:29	14788	379	-29144	70	P	a-	0.9978	1.0115	0.0425	246.5	45.0	-	3S	159W
-0356	Feb 14	16:08:31	14782	379	-29139	37	Nx	-t	1.0002	1.0675	-0.0210	291.4	-	-	16N	176W
-0356	Aug 09	22:01:26	14775	379	-29133	42	P	-a	-0.9153	1.1627	0.1941	262.8	95.2	-	18S	92E
-0355	Feb 02	18:30:17	14768	378	-29127	47	T+	-p	0.2600	2.4068	1.3554	352.7	219.4	84.6	18N	149E
-0355	Jul 30	10:15:22	14761	378	-29121	52	T-	-p	-0.1934	2.5116	1.4946	345.1	220.2	93.6	20S	92W
-0354	Jan 23	03:54:34	14754	378	-29115	57	T	a-	-0.4595	2.0138	1.0160	318.2	193.1	19.3	20N	7E
-0354	Jul 19	15:26:57	14747	378	-29109	62	P	t-	0.5821	1.8217	0.7586	343.8	189.7	-	22S	170W
-0354	Dec 14	08:16:24	14741	378	-29104	29	N	-a	1.5416	0.0159	-0.9574	33.9	-	-	25N	63W
-0353	Jan 12	18:39:03	14740	378	-29103	67	N	a-	-1.1153	0.7954	-0.1726	221.9	-	-	21N	144E
-0353	Jun 09	01:37:22	14734	378	-29098	34	N	-t	-1.4892	0.1517	-0.9000	117.4	-	-	24S	35E
-0353	Jul 08	15:59:13	14733	378	-29097	72	N	t-	1.3331	0.4472	-0.6226	199.8	-	-	22S	179W
-0353	Dec 03	22:25:20	14727	377	-29092	39	P	-a	0.9298	1.1569	0.1471	269.6	84.8	-	23N	83E
-0352	May 28	08:12:02	14720	377	-29086	44	P	-t	-0.6676	1.6332	0.6328	310.2	167.8	-	21S	64W
-0352	Nov 22	06:46:36	14713	377	-29080	49	T+	-p	0.2637	2.4081	1.3406	356.1	219.7	83.4	20N	43W
-0351	May 17	21:43:02	14706	377	-29074	54	T+	p-	0.1173	2.6191	1.6658	321.7	212.7	97.3	18S	94E
-0351	Nov 11	08:02:21	14699	377	-29068	59	T	t-	-0.4280	2.1253	1.0208	364.6	211.6	23.7	16N	62W
-0350	May 07	14:47:19	14692	377	-29062	64	P	a-	0.8480	1.2726	0.3309	265.2	119.8	-	14S	162W
-0350	Oct 31	07:18:53	14685	376	-29056	69	N	t-	-1.0939	0.8963	-0.1937	269.1	-	-	12N	51W
-0349	Mar 28	21:11:22	14679	376	-29051	36	P	-a	-0.9996	1.0271	0.0209	263.2	33.3	-	2S	105E
-0349	Sep 20	23:19:58	14672	376	-29045	41	N	-a	1.0618	0.9090	-0.0893	244.8	-	-	2S	70E

-0348	Mar 17	03:44:19	14665	376	-29039	46	T	-p	-0.2745	2.3857	1.3234	361.6	223.2	83.4	3N	8E
-0348	Sep 09	14:04:33	14658	376	-29033	51	T	-p	0.3346	2.2240	1.2637	311.9	199.7	70.6	7S	151W
-0347	Mar 06	04:18:59	14651	376	-29027	56	P	t-	0.4618	2.0535	0.9686	360.3	208.6	-	8N	0E
-0347	Aug 30	06:24:21	14644	375	-29021	61	T	p-	-0.3666	2.1682	1.2022	313.7	198.9	63.6	11S	35W
-0346	Feb 23	05:43:30	14637	375	-29015	66	N	h-	1.1625	0.7540	-0.3035	244.4	-	-	13N	20W
-0346	Aug 19	19:39:49	14630	375	-29009	71	N	h-	-1.1300	0.7895	-0.2202	236.3	-	-	16S	127E
-0345	Jan 14	02:30:43	14624	375	-29004	38	P	-a	-0.9125	1.1769	0.1903	265.2	94.3	-	21N	26E
-0345	Jul 10	11:18:43	14617	375	-28998	43	P	-t	0.8988	1.2436	0.1747	306.8	100.6	-	22S	109W
-0344	Jan 03	17:54:46	14610	375	-28992	48	T-	-p	-0.2262	2.4272	1.4585	316.0	205.3	86.4	23N	154E
-0344	Jun 28	11:51:30	14604	374	-28986	53	T+	pp	0.1407	2.6308	1.5694	369.1	232.1	100.9	24S	118W
-0344	Dec 23	08:55:03	14597	374	-28980	58	T	p-	0.4548	2.0217	1.0254	316.1	192.3	24.0	24N	72W
-0343	Jun 17	16:49:35	14590	374	-28974	63	P	h-	-0.6280	1.7126	0.6991	319.5	176.5	-	24S	167E
-0343	Dec 12	18:59:16	14583	374	-28968	68	N	h-	1.1943	0.6936	-0.3598	230.9	-	-	24N	135E
-0342	May 08	21:53:18	14577	374	-28963	35	N	-a	1.1744	0.6758	-0.2701	207.1	-	-	15S	91E
-0342	Jun 07	05:02:30	14576	374	-28962	73	N	a-	-1.3405	0.3788	-0.5824	162.8	-	-	24S	17W
-0342	Nov 02	02:20:37	14570	374	-28957	40	N	-t	-1.1199	0.8563	-0.2489	268.8	-	-	13N	23E
-0341	Apr 28	15:06:07	14563	373	-28951	45	T	-a	0.4469	2.0114	1.0640	305.8	191.4	37.3	12S	167W
-0341	Oct 22	02:35:24	14556	373	-28945	50	T	-p	-0.4182	2.1287	1.0532	353.1	208.8	36.8	9N	19E
-0340	Apr 17	05:55:58	14549	373	-28939	55	T	p-	-0.3066	2.2900	1.3006	330.3	209.8	77.3	9S	29W
-0340	Oct 10	09:27:51	14542	373	-28933	60	T	p-	0.3015	2.3130	1.2967	334.2	209.7	76.7	5N	84W
-0339	Apr 06	14:20:54	14535	373	-28927	65	N	t-	-1.1122	0.8407	-0.2057	255.5	-	-	6S	154W
-0339	Sep 29	22:58:45	14529	373	-28921	70	P	a-	0.9721	1.0594	0.0891	250.6	64.6	-	2N	74E
-0338	Feb 24	23:26:17	14523	372	-28916	37	N	-t	1.0408	0.9906	-0.0933	282.3	-	-	12N	74E
-0338	Aug 21	05:50:02	14516	372	-28910	42	P	-a	-0.9661	1.0722	0.0983	255.8	68.8	-	15S	26W
-0337	Feb 14	02:16:32	14509	372	-28904	47	T	-p	0.2905	2.3475	1.3026	349.7	217.0	79.5	15N	31E
-0337	Aug 10	17:33:24	14502	372	-28898	52	T-	-p	-0.2532	2.4052	1.3818	345.0	217.7	86.2	18S	158E
-0336	Feb 03	12:12:31	14495	372	-28892	57	T	a-	-0.4368	2.0526	1.0604	318.3	195.2	36.8	18N	118W
-0336	Jul 29	22:12:34	14488	372	-28886	62	P	t-	0.5128	1.9513	0.8835	351.1	200.6	-	20S	88E
-0336	Dec 24	17:05:57	14483	372	-28881	29	N	a-	1.5468	0.0062	-0.9668	21.1	-	-	25N	165E
-0335	Jan 23	03:15:06	14482	371	-28880	67	N	a-	-1.0998	0.8225	-0.1427	224.8	-	-	19N	15E
-0335	Jun 19	08:09:13	14476	371	-28875	34	Ne	-t	-1.5667	0.0085	-1.0415	28.1	-	-	25S	63W
-0335	Jul 18	22:33:40	14475	371	-28874	72	N	t-	1.2562	0.5888	-0.4822	226.0	-	-	21S	82E
-0335	Dec 14	07:06:42	14469	371	-28869	39	P	-a	0.9330	1.1521	0.1401	270.0	83.1	-	24N	47W
-0334	Jun 08	15:09:49	14462	371	-28863	44	P	-t	-0.7442	1.4910	0.4941	300.1	151.0	-	23S	169W
-0334	Dec 03	15:06:34	14455	371	-28857	49	T+	-p	0.2655	2.4064	1.3360	357.3	220.1	83.1	22N	168W
-0333	May 29	05:02:52	14448	371	-28851	54	T+	pp	0.0414	2.7571	1.8063	321.6	213.6	99.8	21S	18W
-0333	Nov 22	16:04:07	14442	371	-28845	59	T	t-	-0.4236	2.1342	1.0283	365.3	212.2	27.5	19N	177E
-0332	May 17	22:13:37	14435	370	-28839	64	P	a-	0.7763	1.4041	0.4625	274.5	139.0	-	18S	85E
-0332	Nov 10	15:24:53	14428	370	-28833	69	N	t-	-1.0859	0.9106	-0.1788	270.3	-	-	15N	174W
-0331	Apr 08	04:31:21	14422	370	-28828	36	N	-a	-1.0637	0.9098	-0.0973	251.7	-	-	6S	7W

-0331	May 07	14:03:24	14421	370	-28827	74	Nb	a-	1.5504	0.0007	-0.9743	7.3	-	-	14S	152W
-0331	Oct 01	07:36:00	14415	370	-28822	41	N	-a	1.0805	0.8746	-0.1238	240.3	-	-	2N	56W
-0330	Mar 28	10:44:41	14409	370	-28816	46	T	-t	-0.3362	2.2721	1.2106	359.6	219.1	70.3	1S	100W
-0330	Sep 20	22:24:10	14402	370	-28810	51	T	-p	0.3629	2.1732	1.2107	310.5	197.4	64.1	3S	83E
-0329	Mar 17	11:16:56	14395	369	-28804	56	T	t-	0.4051	2.1554	1.0745	363.5	215.2	44.2	4N	106W
-0329	Sep 10	14:31:23	14388	369	-28798	61	T	p-	-0.3316	2.2349	1.2639	316.4	201.7	71.2	7S	158W
-0328	Mar 05	13:08:13	14381	369	-28792	66	N	h-	1.1162	0.8358	-0.2153	254.1	-	-	9N	133W
-0328	Aug 30	03:19:04	14374	369	-28786	71	N	h-	-1.0898	0.8666	-0.1496	246.8	-	-	12S	11E
-0327	Jan 24	11:00:13	14369	369	-28781	38	P	-a	-0.9258	1.1503	0.1682	262.1	88.7	-	19N	101W
-0327	Jul 20	17:53:59	14362	369	-28775	43	P	-t	0.9753	1.1050	0.0327	294.2	44.4	-	21S	152E
-0326	Jan 14	02:37:30	14355	368	-28769	48	T-	-p	-0.2365	2.4073	1.4404	315.6	204.9	85.3	22N	24E
-0326	Jul 09	18:24:35	14348	368	-28763	53	T+	pp	0.2216	2.4822	1.4210	366.2	228.1	92.3	23S	144E
-0325	Jan 03	17:34:15	14342	368	-28757	58	T	p-	0.4499	2.0310	1.0339	317.3	193.3	27.7	24N	158E
-0325	Jun 28	23:46:03	14335	368	-28751	63	P	h-	-0.5488	1.8566	0.8454	325.2	188.6	-	24S	62E
-0325	Dec 24	03:20:38	14328	368	-28745	68	N	h-	1.1933	0.6964	-0.3589	232.1	-	-	25N	10E
-0324	May 19	05:17:51	14322	368	-28740	35	N	-a	1.2447	0.5458	-0.3981	188.2	-	-	17S	21W
-0324	Jun 17	12:20:50	14321	368	-28739	73	N	a-	-1.2644	0.5174	-0.4419	187.2	-	-	25S	127W
-0324	Nov 12	10:18:33	14316	367	-28734	40	N	-t	-1.1274	0.8430	-0.2633	267.1	-	-	16N	98W
-0323	May 08	22:33:17	14309	367	-28728	45	P	-a	0.5194	1.8786	0.9309	301.4	183.7	-	15S	80E
-0323	Nov 01	10:42:17	14302	367	-28722	50	T	-p	-0.4272	2.1118	1.0370	351.6	207.3	30.7	13N	104W
-0322	Apr 28	13:09:00	14295	367	-28716	55	T-	pp	-0.2359	2.4205	1.4296	334.4	214.7	88.4	13S	139W
-0322	Oct 21	17:53:27	14289	367	-28710	60	T	p-	0.2887	2.3361	1.3205	333.6	210.0	78.8	10N	148E
-0321	Apr 17	21:10:22	14282	367	-28704	65	N	t-	-1.0426	0.9687	-0.0783	271.5	-	-	10S	101E
-0321	Oct 11	07:32:02	14275	366	-28698	70	P	a-	0.9537	1.0937	0.1223	253.4	75.2	-	6N	56W
-0320	Mar 07	06:34:34	14270	366	-28693	37	N	-t	1.0891	0.8996	-0.1794	270.9	-	-	8N	35W
-0320	Aug 31	13:45:46	14263	366	-28687	42	P	-a	-1.0102	0.9941	0.0146	249.3	26.9	-	11S	146W
-0319	Feb 24	09:56:32	14256	366	-28681	47	T	-p	0.3269	2.2776	1.2392	346.3	213.9	72.2	11N	85W
-0319	Aug 21	00:57:25	14249	366	-28675	52	T	-p	-0.3068	2.3102	1.2803	344.7	214.7	76.8	14S	46E
-0318	Feb 13	20:25:02	14243	366	-28669	57	T	a-	-0.4091	2.1006	1.1140	318.6	197.7	49.7	14N	117E
-0318	Aug 10	05:02:46	14236	365	-28663	62	T	t-	0.4476	2.0733	1.0006	357.2	209.3	4.0	17S	16W
-0317	Feb 03	11:45:37	14229	365	-28657	67	N	a-	-1.0799	0.8574	-0.1047	228.4	-	-	17N	113W
-0317	Jul 30	05:15:12	14222	365	-28651	72	N	t-	1.1841	0.7218	-0.3506	246.8	-	-	19S	19W
-0317	Dec 25	15:44:24	14217	365	-28646	39	P	-a	0.9386	1.1427	0.1291	270.1	80.1	-	25N	176W
-0316	Jun 18	22:12:19	14210	365	-28640	44	P	-h	-0.8176	1.3548	0.3607	289.5	131.2	-	24S	85E
-0316	Dec 13	23:23:51	14203	365	-28634	49	T-	-p	0.2689	2.4011	1.3285	358.4	220.4	82.6	23N	68E
-0315	Jun 08	12:24:35	14197	364	-28628	54	T-	pp	-0.0332	2.7713	1.8222	320.9	213.3	99.8	23S	129W
-0315	Dec 03	00:05:37	14190	364	-28622	59	T	t-	-0.4190	2.1430	1.0364	365.9	212.8	31.2	21N	56E
-0314	May 29	05:38:31	14183	364	-28616	64	P	a-	0.7036	1.5378	0.5957	283.0	154.7	-	20S	27W
-0314	Nov 21	23:33:51	14177	364	-28610	69	N	h-	-1.0800	0.9207	-0.1673	270.8	-	-	18N	63E
-0313	Apr 19	11:41:09	14171	364	-28605	36	N	-h	-1.1349	0.7799	-0.2285	237.1	-	-	10S	117W

-0313	May 18	21:14:20	14170	364	-28604	74	N	h-	1.4831	0.1253	-0.8520	97.8	-	-	17S	99E
-0313	Oct 12	16:00:56	14165	364	-28599	41	N	-a	1.0927	0.8522	-0.1460	237.1	-	-	7N	176E
-0312	Apr 07	17:34:28	14158	364	-28593	46	T	-t	-0.4056	2.1446	1.0834	356.4	213.1	46.2	6S	156E
-0312	Oct 01	06:51:56	14151	363	-28587	51	T	-p	0.3844	2.1347	1.1702	309.4	195.4	58.3	2N	46W
-0311	Mar 27	18:06:02	14145	363	-28581	56	T	t-	0.3411	2.2710	1.1939	366.4	221.4	68.6	1S	149E
-0311	Sep 20	22:46:26	14138	363	-28575	61	T	p-	-0.3038	2.2883	1.3125	318.7	203.8	76.3	3S	76E
-0310	Mar 16	20:24:26	14131	363	-28569	66	N	h-	1.0619	0.9321	-0.1126	264.5	-	-	4N	116E
-0310	Sep 10	11:05:11	14125	363	-28563	71	N	h-	-1.0560	0.9318	-0.0909	255.4	-	-	8S	108W
-0309	Feb 04	19:23:16	14119	363	-28558	38	P	-a	-0.9447	1.1131	0.1359	258.1	80.0	-	17N	132E
-0309	Aug 01	00:34:43	14112	362	-28552	43	N	-t	1.0464	0.9764	-0.0998	280.9	-	-	19S	51E
-0308	Jan 25	11:13:43	14106	362	-28546	48	T	-p	-0.2520	2.3778	1.4130	315.1	204.3	83.6	20N	106W
-0308	Jul 20	01:04:53	14099	362	-28540	53	T	pp	0.2970	2.3441	1.2826	362.5	222.9	79.6	22S	43E
-0307	Jan 14	02:08:42	14092	362	-28534	58	T	p-	0.4421	2.0457	1.0480	318.6	194.6	32.9	23N	30E
-0307	Jul 09	06:47:23	14086	362	-28528	63	P	a-	-0.4727	1.9954	0.9861	329.7	198.0	-	24S	43W
-0306	Jan 03	11:38:31	14079	362	-28522	68	N	h-	1.1903	0.7025	-0.3541	233.7	-	-	25N	114W
-0306	May 30	12:41:31	14074	361	-28517	35	N	-a	1.3157	0.4148	-0.5277	165.9	-	-	20S	133W
-0306	Jun 28	19:41:48	14073	361	-28516	73	N	a-	-1.1900	0.6534	-0.3047	207.0	-	-	25S	122E
-0306	Nov 23	18:19:42	14067	361	-28511	40	N	-t	-1.1327	0.8335	-0.2732	265.8	-	-	19N	142E
-0305	May 20	05:56:35	14060	361	-28505	45	P	-a	0.5947	1.7408	0.7922	295.9	173.8	-	18S	32W
-0305	Nov 12	18:54:42	14054	361	-28499	50	T	-p	-0.4325	2.1014	1.0280	350.2	206.2	26.7	16N	132E
-0304	May 08	20:17:29	14047	361	-28493	55	T-	pp	-0.1621	2.5570	1.5639	337.8	218.6	96.2	16S	112E
-0304	Nov 01	02:24:03	14041	361	-28487	60	T	p-	0.2794	2.3525	1.3381	332.9	210.0	80.2	14N	19E
-0303	Apr 28	03:54:57	14034	360	-28481	65	P	t-	-0.9695	1.1033	0.0554	286.5	56.5	-	13S	2W
-0303	Oct 21	16:11:13	14027	360	-28475	70	P	a-	0.9401	1.1191	0.1467	255.4	82.0	-	10N	172E
-0302	Mar 18	13:34:43	14022	360	-28470	37	N	-t	1.1440	0.7963	-0.2778	256.9	-	-	4N	142W
-0302	Sep 11	21:48:39	14015	360	-28464	42	N	-a	-1.0479	0.9277	-0.0573	243.4	-	-	7S	91E
-0301	Mar 07	17:28:08	14009	360	-28458	47	T	-p	0.3710	2.1933	1.1615	342.2	209.7	60.8	7N	160E
-0301	Sep 01	08:29:28	14002	360	-28452	52	T	-a	-0.3531	2.2286	1.1921	344.3	211.6	65.7	11S	69W
-0300	Feb 25	04:28:04	13996	359	-28446	57	T	a-	-0.3728	2.1644	1.1834	319.2	200.6	61.6	11N	5W
-0300	Aug 20	12:02:49	13989	359	-28440	62	T	t-	0.3906	2.1804	1.1027	362.1	215.7	51.2	14S	122W

3RD CENTURY BCE

In the 3rd century BCE the total number of lunar eclipses was 228 lunar eclipses:

**79 penumbral lunar eclipses, 64 partial lunar eclipses, 85 total lunar eclipses
(30 central total lunar eclipses, 55 non-central total lunar eclipses).**

DATE	OF	s	SIGMA	NUM	NUM	TYPE	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN	CALENDAR	TD	ΔT	ΔT	LUNA	SAROS
																	MAG.	MAG.	DUR.	DUR.	DUR.	DUR.
																	m	m	m	°	°	
ECLIPSE																						
-0299 Feb 13	20:07:52	13982	359	-28434	67	N	a-	-1.0532	0.9049	-0.0541	233.3	-	-	-	-	-	14N	120E				
-0299 Aug 09	12:05:01	13976	359	-28428	72	N	t-	1.1178	0.8444	-0.2296	263.4	-	-	-	-	-	17S	123W				
-0298 Jan 05	00:17:28	13970	359	-28423	39	P	-a	0.9476	1.1268	0.1120	269.5	75.0	-	-	-	-	24N	56E				
-0298 Jun 30	05:17:56	13964	359	-28417	44	P	-h	-0.8895	1.2217	0.2298	277.9	106.4	-	-	-	-	25S	22W				
-0298 Dec 25	07:38:02	13957	359	-28411	49	T	-p	0.2741	2.3923	1.3183	359.2	220.5	81.8	-	-	-	24N	55W				
-0297 Jun 19	19:46:40	13951	358	-28405	54	T-	pp	-0.1080	2.6336	1.6855	319.5	211.9	97.4	-	-	-	24S	120E				
-0297 Dec 14	08:07:27	13944	358	-28399	59	T	t-	-0.4146	2.1508	1.0445	366.3	213.3	34.4	-	-	-	23N	64W				
-0296 Jun 08	13:02:25	13938	358	-28393	64	P	a-	0.6303	1.6729	0.7295	290.7	167.7	-	-	-	-	22S	139W				
-0296 Dec 02	07:45:01	13931	358	-28387	69	N	h-	-1.0752	0.9286	-0.1573	271.1	-	-	-	-	-	21N	60W				
-0295 Apr 29	18:45:16	13926	358	-28382	36	N	-h	-1.2095	0.6438	-0.3664	219.2	-	-	-	-	-	14S	135E				
-0295 May 29	04:23:04	13925	358	-28381	74	N	h-	1.4145	0.2526	-0.7276	137.7	-	-	-	-	-	19S	10W				
-0295 Oct 23	00:33:09	13919	358	-28376	41	N	-a	1.0997	0.8391	-0.1587	234.9	-	-	-	-	-	11N	46E				
-0294 Apr 19	00:16:23	13913	357	-28370	46	P	-t	-0.4807	2.0067	0.9458	351.9	204.8	-	-	-	-	10S	53E				
-0294 Oct 12	15:26:43	13906	357	-28364	51	T	-p	0.4003	2.1066	1.1400	308.5	193.9	53.4	-	-	-	6N	176W				
-0293 Apr 08	00:48:08	13900	357	-28358	56	T+	pp	0.2708	2.3980	1.3247	369.0	226.7	84.6	-	-	-	5S	47E				
-0293 Oct 02	07:08:19	13893	357	-28352	61	T	p-	-0.2823	2.3302	1.3496	320.6	205.4	79.7	-	-	-	1N	51W				
-0292 Mar 27	03:34:38	13887	357	-28346	66	P	h-	1.0017	1.0394	0.0009	274.9	7.1	-	-	-	-	0N	6E				
-0292 Sep 20	18:59:00	13880	357	-28340	71	N	h-	-1.0292	0.9843	-0.0449	262.3	-	-	-	-	-	4S	132E				
-0291 Feb 15	03:39:42	13875	356	-28335	38	P	-a	-0.9695	1.0651	0.0928	253.0	66.4	-	-	-	-	13N	7E				
-0291 Aug 11	07:22:25	13868	356	-28329	43	N	-t	1.1113	0.8593	-0.2207	267.1	-	-	-	-	-	16S	52W				
-0290 Feb 04	19:42:54	13862	356	-28323	48	T	-p	-0.2733	2.3377	1.3749	314.3	203.4	80.8	-	-	-	17N	126E				
-0290 Jul 31	07:53:07	13855	356	-28317	53	T	-t	0.3661	2.2175	1.1556	358.3	216.7	61.6	-	-	-	20S	60W				
-0289 Jan 25	10:34:13	13849	356	-28311	58	T	p-	0.4274	2.0726	1.0748	320.4	196.6	40.9	-	-	-	21N	97W				
-0289 Jul 20	13:56:31	13842	356	-28305	63	T	a-	-0.4020	2.1244	1.1165	333.0	204.8	51.8	-	-	-	22S	151W				
-0288 Jan 14	19:48:08	13836	355	-28299	68	N	t-	1.1816	0.7188	-0.3385	236.8	-	-	-	-	-	23N	124E				
-0288 Jun 09	20:06:09	13830	355	-28294	35	N	-a	1.3863	0.2850	-0.6567	139.1	-	-	-	-	-	21S	115E				
-0288 Jul 09	03:08:29	13829	355	-28293	73	N	a-	-1.1194	0.7825	-0.1748	223.0	-	-	-	-	-	24S	10E				
-0288 Dec 04	02:20:47	13824	355	-28288	40	N	-t	-1.1379	0.8238	-0.2825	264.3	-	-	-	-	-	21N	21E				
-0287 May 30	13:18:13	13817	355	-28282	45	P	-a	0.6709	1.6019	0.6517	289.5	161.6	-	-	-	-	20S	144W				

-0287	Nov 23	03:11:37	13811	355	-28276	50	T	-p	-0.4346	2.0966	1.0251	348.9	205.5	25.3	19N	7E
-0286	May 20	03:19:07	13804	355	-28270	55	T-	pp	-0.0838	2.7021	1.7063	340.6	221.4	101.1	19S	6E
-0286	Nov 12	11:01:22	13798	355	-28264	60	T	p-	0.2751	2.3596	1.3468	332.0	209.7	80.7	17N	111W
-0285	May 09	10:31:14	13791	354	-28258	65	P	t-	-0.8905	1.2489	0.1996	300.9	105.4	-	17S	102W
-0285	Nov 02	00:57:01	13785	354	-28252	70	P	a-	0.9320	1.1344	0.1613	256.5	85.8	-	14N	40E
-0284	Mar 28	20:26:39	13780	354	-28247	37	N	-t	1.2056	0.6809	-0.3883	239.6	-	-	1S	113E
-0284	Sep 22	05:59:33	13773	354	-28241	42	N	-a	-1.0784	0.8747	-0.1160	238.6	-	-	3S	33W
-0283	Mar 18	00:54:00	13767	354	-28235	47	T	-t	0.4207	2.0988	1.0735	337.4	204.5	42.1	3N	47E
-0283	Sep 11	16:07:06	13760	354	-28229	52	T	-a	-0.3937	2.1573	1.1142	343.9	208.3	52.0	7S	175E
-0282	Mar 07	12:25:48	13754	353	-28223	57	T	p-	-0.3314	2.2375	1.2621	319.9	203.5	71.6	7N	126W
-0282	Aug 31	19:09:14	13747	353	-28217	62	T	p-	0.3391	2.2774	1.1948	366.1	220.6	68.4	10S	130E
-0281	Feb 25	04:22:09	13741	353	-28211	67	P	a-	-1.0201	0.9641	0.0081	239.2	19.6	-	10N	5W
-0281	Aug 20	19:04:01	13735	353	-28205	72	N	t-	1.0580	0.9548	-0.1208	276.6	-	-	13S	131E
-0280	Jan 16	08:44:00	13729	353	-28200	39	P	-a	0.9613	1.1021	0.0865	268.1	66.3	-	23N	70W
-0280	Jul 10	12:30:23	13723	353	-28194	44	P	-h	-0.9564	1.0982	0.1081	266.1	74.0	-	24S	130W
-0279	Jan 04	15:45:41	13716	352	-28188	49	T	-p	0.2840	2.3746	1.2998	359.8	220.4	80.1	24N	177W
-0279	Jun 30	03:13:28	13710	352	-28182	54	T-	-p	-0.1792	2.5027	1.5550	317.6	209.4	92.6	24S	8E
-0279	Dec 24	16:05:34	13704	352	-28176	59	T	t-	-0.4073	2.1637	1.0583	366.7	214.2	39.2	23N	177E
-0278	Jun 19	20:26:26	13697	352	-28170	64	P	a-	0.5574	1.8076	0.8622	297.6	178.5	-	23S	109E
-0278	Dec 13	15:56:17	13691	352	-28164	69	N	h-	-1.0697	0.9372	-0.1458	271.3	-	-	22N	177E
-0277	May 11	01:42:19	13685	352	-28159	36	N	-h	-1.2888	0.4996	-0.5129	196.6	-	-	18S	29E
-0277	Jun 09	11:29:29	13684	352	-28158	74	N	h-	1.3445	0.3829	-0.6009	168.2	-	-	21S	117W
-0277	Nov 03	09:11:15	13679	351	-28153	41	N	-a	1.1027	0.8331	-0.1638	233.6	-	-	15N	84W
-0276	Apr 29	06:50:42	13673	351	-28147	46	P	-t	-0.5612	1.8591	0.7980	346.0	193.6	-	14S	47W
-0276	Oct 23	00:08:35	13666	351	-28141	51	T	-p	0.4106	2.0886	1.1203	308.0	192.8	49.7	11N	52E
-0275	Apr 18	07:23:31	13660	351	-28135	56	T+	pp	0.1948	2.5357	1.4660	370.8	230.9	95.8	9S	54W
-0275	Oct 12	15:36:51	13654	351	-28129	61	T-	p-	-0.2669	2.3609	1.3756	322.3	206.6	81.9	6N	180W
-0274	Apr 07	10:38:19	13647	351	-28123	66	P	h-	0.9351	1.1586	0.1262	285.2	82.9	-	4S	102W
-0274	Oct 02	03:00:03	13641	351	-28117	71	Nx	h-	-1.0092	1.0241	-0.0114	267.7	-	-	1N	10E
-0273	Feb 26	11:47:23	13636	350	-28112	38	P	-a	-1.0018	1.0033	0.0360	246.5	41.6	-	9N	116W
-0273	Aug 22	14:18:39	13629	350	-28106	43	N	-t	1.1686	0.7562	-0.3279	253.6	-	-	13S	158W
-0272	Feb 16	04:04:27	13623	350	-28100	48	T	-p	-0.3006	2.2865	1.3259	313.3	201.9	76.8	14N	0E
-0272	Aug 10	14:50:18	13616	350	-28094	53	T	-t	0.4285	2.1033	1.0408	353.8	209.8	32.6	17S	165W
-0271	Feb 04	18:52:48	13610	350	-28088	58	T	p-	0.4079	2.1084	1.1106	322.5	199.0	49.3	18N	138E
-0271	Jul 30	21:13:17	13604	350	-28082	63	T	a-	-0.3367	2.2437	1.2368	335.3	209.8	70.8	20S	99E
-0270	Jan 25	03:51:20	13597	349	-28076	68	N	t-	1.1685	0.7431	-0.3146	240.9	-	-	21N	3E
-0270	Jun 21	03:31:27	13592	349	-28071	35	N	-a	1.4561	0.1568	-0.7849	104.3	-	-	22S	3E
-0270	Jul 20	10:39:37	13591	349	-28070	73	N	a-	-1.0521	0.9060	-0.0512	236.4	-	-	23S	103W
-0270	Dec 15	10:22:34	13586	349	-28065	40	N	-t	-1.1424	0.8148	-0.2902	262.9	-	-	22N	99W
-0269	Jun 10	20:39:04	13579	349	-28059	45	P	-a	0.7468	1.4637	0.5113	282.2	146.7	-	22S	105E

-0269	Dec 04	11:29:36	13573	349	-28053	50	T	-p	-0.4363	2.0920	1.0233	347.6	204.9	24.3	22N	117W
-0268	May 30	10:19:17	13567	349	-28047	55	T-	pp	-0.0053	2.8477	1.8487	342.7	222.9	102.9	21S	100W
-0268	Nov 22	19:41:19	13560	348	-28041	60	T	p-	0.2729	2.3627	1.3520	331.0	209.4	81.0	20N	119E
-0267	May 19	17:04:21	13554	348	-28035	65	P	t-	-0.8093	1.3987	0.3477	314.0	136.4	-	20S	158E
-0267	Nov 12	09:45:58	13548	348	-28029	70	P	a-	0.9265	1.1446	0.1712	257.1	88.1	-	18N	93W
-0266	Apr 09	03:12:11	13543	348	-28024	37	N	-t	1.2723	0.5560	-0.5085	218.5	-	-	5S	9E
-0266	May 08	18:08:51	13542	348	-28023	75	Nb	t-	-1.5753	0.0025	-1.0669	15.7	-	-	17S	142E
-0266	Oct 03	14:17:08	13536	348	-28018	42	N	-a	-1.1029	0.8324	-0.1638	234.7	-	-	1N	159W
-0265	Mar 29	08:11:18	13530	348	-28012	47	P	-t	0.4784	1.9896	0.9708	331.7	197.7	-	1S	65W
-0265	Sep 22	23:53:30	13524	348	-28006	52	T	-a	-0.4263	2.1007	1.0512	343.6	205.3	35.6	2S	57E
-0264	Mar 17	20:14:52	13517	347	-28000	57	T	p-	-0.2821	2.3253	1.3552	320.7	206.5	80.6	2N	115E
-0264	Sep 11	02:25:05	13511	347	-27994	62	T	p-	0.2956	2.3596	1.2722	369.2	224.2	78.7	6S	19E
-0263	Mar 07	12:27:53	13505	347	-27988	67	P	a-	-0.9801	1.0361	0.0829	245.9	62.0	-	6N	128W
-0263	Aug 31	02:13:28	13498	347	-27982	72	Nx	t-	1.0060	1.0511	-0.0261	287.0	-	-	10S	23E
-0262	Jan 26	17:02:51	13493	347	-27977	39	P	-a	0.9806	1.0669	0.0508	265.6	51.3	-	21N	165E
-0262	Jul 21	19:48:05	13487	347	-27971	44	N	-a	-1.0197	0.9815	-0.0076	253.8	-	-	23S	120E
-0261	Jan 15	23:47:33	13481	346	-27965	49	T	-p	0.2980	2.3490	1.2739	360.1	219.9	77.5	22N	63E
-0261	Jul 11	10:43:45	13474	346	-27959	54	T-	-p	-0.2480	2.3767	1.4288	315.1	206.1	85.4	23S	105W
-0260	Jan 04	23:59:39	13468	346	-27953	59	T	t-	-0.3966	2.1825	1.0789	367.1	215.4	45.3	23N	58E
-0260	Jun 30	03:52:40	13462	346	-27947	64	P	a-	0.4866	1.9389	0.9909	303.5	187.3	-	23S	3W
-0260	Dec 24	00:07:15	13456	346	-27941	69	N	h-	-1.0630	0.9476	-0.1318	271.6	-	-	23N	55E
-0259	May 21	08:35:03	13450	346	-27936	36	N	-h	-1.3701	0.3517	-0.6635	168.0	-	-	21S	75W
-0259	Jun 19	18:34:56	13449	346	-27935	74	N	h-	1.2743	0.5137	-0.4741	193.2	-	-	22S	136E
-0259	Nov 13	17:54:07	13444	345	-27930	41	N	-a	1.1026	0.8329	-0.1629	232.9	-	-	18N	144E
-0258	May 10	13:19:58	13438	345	-27924	46	P	-t	-0.6452	1.7052	0.6437	338.5	178.8	-	17S	146W
-0258	Nov 03	08:55:21	13432	345	-27918	51	T	-p	0.4167	2.0782	1.1083	307.7	192.2	47.3	14N	81W
-0257	Apr 29	13:53:42	13425	345	-27912	56	T+	pp	0.1142	2.6819	1.6155	371.8	233.7	102.9	13S	154W
-0257	Oct 24	00:11:06	13419	345	-27906	61	T-	p-	-0.2568	2.3815	1.3918	323.8	207.4	83.2	10N	50E
-0256	Apr 17	17:38:28	13413	345	-27900	66	P	h-	0.8645	1.2852	0.2585	294.8	116.0	-	8S	151E
-0256	Oct 12	11:06:26	13407	345	-27894	71	P	h-	-0.9943	1.0544	0.0130	272.0	26.7	-	5N	113W
-0255	Mar 08	19:48:37	13401	344	-27889	38	N	-a	-1.0399	0.9311	-0.0315	238.6	-	-	5N	122E
-0255	Apr 07	04:28:31	13400	344	-27888	76	Nb	a-	1.5487	0.0038	-0.9711	17.0	-	-	4S	10W
-0255	Sep 01	21:23:54	13395	344	-27883	43	N	-t	1.2182	0.6671	-0.4208	240.6	-	-	9S	95E
-0254	Feb 26	12:17:09	13389	344	-27877	48	T	-p	-0.3353	2.2218	1.2633	311.9	199.9	70.6	10N	125W
-0254	Aug 21	21:57:16	13383	344	-27871	53	P	-t	0.4834	2.0029	0.9397	349.1	202.7	-	13S	87E
-0253	Feb 16	03:01:04	13376	344	-27865	58	T	p-	0.3805	2.1586	1.1609	324.9	202.1	58.7	14N	15E
-0253	Aug 11	04:40:08	13370	344	-27859	63	T	p-	-0.2789	2.3495	1.3431	336.6	213.2	81.9	17S	14W
-0252	Feb 05	11:43:23	13364	343	-27853	68	N	t-	1.1473	0.7820	-0.2756	246.8	-	-	18N	115W
-0252	Jul 01	11:00:52	13359	343	-27848	35	Ne	-a	1.5227	0.0349	-0.9074	49.7	-	-	22S	110W
-0252	Jul 30	18:19:04	13358	343	-27847	73	P	a-	-0.9911	1.0182	0.0605	247.2	53.7	-	21S	142E

-0252	Dec 25	18:21:26	13353	343	-27842	40	N	-t	-1.1490	0.8018	-0.3012	260.8	-	-	-	23N	141E
-0251	Jun 21	03:59:23	13347	343	-27836	45	P	-a	0.8226	1.3261	0.3708	273.7	127.8	-	-	23S	5W
-0251	Dec 14	19:48:50	13340	343	-27830	50	T	-p	-0.4377	2.0878	1.0226	346.2	204.4	23.9	-	23N	118E
-0250	Jun 10	17:15:45	13334	343	-27824	55	T+	pp	0.0751	2.7217	1.7187	343.9	222.9	101.8	-	23S	155E
-0250	Dec 04	04:23:56	13328	342	-27818	60	T+	p-	0.2719	2.3632	1.3552	329.9	209.0	81.1	-	22N	12W
-0249	May 30	23:32:12	13322	342	-27812	65	P	t-	-0.7241	1.5561	0.5030	326.2	160.6	-	-	22S	60E
-0249	Nov 23	18:38:45	13316	342	-27806	70	P	a-	0.9240	1.1491	0.1758	257.3	89.2	-	-	21N	133E
-0248	Apr 19	09:52:26	13310	342	-27801	37	N	-t	1.3436	0.4229	-0.6371	192.3	-	-	-	9S	93W
-0248	May 19	00:30:03	13309	342	-27800	75	N	t-	-1.4901	0.1581	-0.9098	122.1	-	-	-	20S	46E
-0248	Oct 13	22:40:41	13304	342	-27795	42	N	-a	-1.1222	0.7997	-0.2017	231.7	-	-	-	6N	73E
-0247	Apr 08	15:25:02	13298	342	-27789	47	P	-t	0.5400	1.8735	0.8608	325.2	189.3	-	-	5S	175W
-0247	Oct 03	07:46:08	13292	342	-27783	52	P	-a	-0.4530	2.0548	0.9992	343.6	202.7	-	-	2N	63W
-0246	Mar 29	03:58:03	13286	341	-27777	57	T-	p-	-0.2272	2.4234	1.4585	321.4	209.1	88.0	-	2S	3W
-0246	Sep 22	09:48:41	13280	341	-27771	62	T+	pp	0.2586	2.4298	1.3379	371.7	226.9	85.5	-	2S	93W
-0245	Mar 18	20:26:21	13273	341	-27765	67	P	a-	-0.9342	1.1190	0.1684	253.2	87.3	-	-	2N	111E
-0245	Sep 11	09:33:06	13267	341	-27759	72	P	t-	0.9613	1.1339	0.0551	295.0	57.0	-	-	6S	89W
-0244	Feb 07	01:12:33	13262	341	-27754	39	P	-a	1.0069	1.0188	0.0025	261.7	11.4	-	-	18N	42E
-0244	Aug 01	03:15:18	13256	341	-27748	44	N	-a	-1.0762	0.8774	-0.1109	241.8	-	-	-	20S	8E
-0243	Jan 26	07:40:56	13250	340	-27742	49	T	-p	0.3186	2.3111	1.2363	360.0	218.9	73.1	-	20N	56W
-0243	Jul 21	18:19:36	13244	340	-27736	54	T	-p	-0.3125	2.2587	1.3100	312.3	202.0	75.7	-	22S	141E
-0242	Jan 15	07:47:31	13237	340	-27730	59	T	t-	-0.3806	2.2107	1.1096	367.8	217.2	52.9	-	22N	58W
-0242	Jul 11	11:22:03	13231	340	-27724	64	T	a-	0.4184	2.0656	1.1144	308.7	194.5	49.2	-	23S	115W
-0241	Jan 04	08:13:26	13225	340	-27718	69	N	h-	-1.0517	0.9661	-0.1088	272.8	-	-	-	22N	66W
-0241	Jun 01	15:23:45	13220	340	-27713	36	N	-h	-1.4534	0.2005	-0.8180	129.2	-	-	-	23S	178W
-0241	Jul 01	01:41:29	13219	340	-27712	74	N	h-	1.2055	0.6423	-0.3502	214.3	-	-	-	23S	29E
-0241	Nov 25	02:39:53	13214	340	-27707	41	N	-a	1.1009	0.8350	-0.1591	232.6	-	-	-	21N	13E
-0240	May 20	19:45:14	13208	339	-27701	46	P	-t	-0.7316	1.5471	0.4847	329.2	159.5	-	-	20S	117E
-0240	Nov 13	17:45:38	13202	339	-27695	51	T	-p	0.4201	2.0724	1.1015	307.6	191.8	45.9	-	18N	146E
-0239	May 09	20:20:35	13196	339	-27689	56	T+	pp	0.0302	2.8345	1.7711	371.8	234.9	106.1	-	16S	108E
-0239	Nov 03	08:50:41	13189	339	-27683	61	T-	p-	-0.2516	2.3932	1.3995	325.1	208.1	83.9	-	14N	81W
-0238	Apr 29	00:32:57	13183	339	-27677	66	P	h-	0.7879	1.4230	0.4017	303.9	141.1	-	-	12S	46E
-0238	Oct 23	19:19:54	13177	339	-27671	71	P	h-	-0.9858	1.0728	0.0259	275.0	37.6	-	-	9N	122E
-0237	Mar 20	03:41:44	13172	338	-27666	38	N	-a	-1.0853	0.8455	-0.1125	228.8	-	-	-	1N	2E
-0237	Apr 18	11:54:44	13171	338	-27665	76	N	a-	1.4823	0.1229	-0.8469	95.6	-	-	-	8S	124W
-0237	Sep 13	04:39:01	13166	338	-27660	43	N	-t	1.2597	0.5928	-0.4988	228.7	-	-	-	5S	16W
-0236	Mar 08	20:21:29	13160	338	-27654	48	T	-p	-0.3768	2.1446	1.1880	310.0	197.0	61.2	-	6N	113E
-0236	Sep 01	05:15:10	13154	338	-27648	53	P	-t	0.5302	1.9175	0.8535	344.7	195.7	-	-	10S	24W
-0235	Feb 26	11:01:37	13148	338	-27642	58	T	p-	0.3475	2.2191	1.2215	327.6	205.4	67.7	-	10N	106W
-0235	Aug 21	12:14:43	13142	338	-27636	63	T-	p-	-0.2266	2.4453	1.4393	337.3	215.4	89.0	-	14S	128W
-0234	Feb 15	19:27:35	13136	337	-27630	68	N	t-	1.1204	0.8310	-0.2262	253.9	-	-	-	15N	128E

-0234	Aug 11	02:04:47	13130	337	-27624	73	P	a-	-0.9350	1.1215	0.1630	256.1	86.7	-	18S	24E
-0233	Jan 06	02:16:07	13124	337	-27619	40	N	t-	-1.1591	0.7816	-0.3184	257.6	-	-	22N	23E
-0233	Jul 02	11:21:46	13118	337	-27613	45	P	a-	0.8961	1.1931	0.2343	264.4	103.9	-	23S	116W
-0233	Dec 26	04:05:54	13112	337	-27607	50	T	p-	-0.4414	2.0788	1.0177	344.5	203.5	21.2	23N	6W
-0232	Jun 21	00:13:15	13106	337	-27601	55	T+	pp	0.1539	2.5793	1.5720	344.3	221.6	97.5	23S	50E
-0232	Dec 14	13:04:57	13100	337	-27595	60	T+	p-	0.2690	2.3668	1.3619	328.8	208.7	81.5	24N	142W
-0231	Jun 10	06:00:22	13094	336	-27589	65	P	t-	-0.6397	1.7124	0.6567	336.7	179.4	-	23S	37W
-0231	Dec 04	03:31:49	13088	336	-27583	70	P	a-	0.9219	1.1527	0.1799	257.4	90.1	-	23N	0W
-0230	Apr 30	16:27:18	13083	336	-27578	37	N	t-	1.4193	0.2820	-0.7738	158.6	-	-	12S	167E
-0230	May 30	06:49:07	13082	336	-27577	75	N	t-	-1.4024	0.3184	-0.7483	170.6	-	-	22S	50W
-0230	Oct 25	07:10:12	13077	336	-27572	42	N	a-	-1.1360	0.7768	-0.2295	229.7	-	-	10N	56W
-0229	Apr 19	22:32:35	13071	336	-27566	47	P	t-	0.6073	1.7471	0.7401	317.6	178.6	-	9S	76E
-0229	Oct 14	15:46:04	13065	336	-27560	52	P	a-	-0.4728	2.0213	0.9600	343.8	200.7	-	6N	175E
-0228	Apr 08	11:34:20	13059	335	-27554	57	T-	p-	-0.1660	2.5333	1.5730	321.9	211.3	93.9	6S	119W
-0228	Oct 02	17:22:17	13053	335	-27548	62	T+	pp	0.2303	2.4839	1.3879	373.5	228.7	89.8	3N	152E
-0227	Mar 29	04:16:45	13047	335	-27542	67	P	a-	-0.8818	1.2140	0.2656	261.0	108.3	-	2S	9W
-0227	Sep 21	17:02:48	13041	335	-27536	72	P	t-	0.9240	1.2030	0.1228	301.2	84.2	-	1S	157E
-0226	Feb 17	09:13:16	13036	335	-27531	39	N	a-	1.0398	0.9585	-0.0579	256.3	-	-	14N	79W
-0226	Aug 12	10:50:04	13030	335	-27525	44	N	a-	-1.1275	0.7831	-0.2048	229.9	-	-	18S	107W
-0225	Feb 06	15:24:51	13024	335	-27519	49	T	t-	0.3463	2.2600	1.1859	359.4	217.1	66.2	17N	172W
-0225	Aug 02	02:01:43	13018	334	-27513	54	T	p-	-0.3720	2.1501	1.2001	309.3	197.4	63.0	20S	25E
-0224	Jan 26	15:29:11	13012	334	-27507	59	T	p-	-0.3592	2.2483	1.1503	368.5	219.3	61.1	19N	174W
-0224	Jul 21	18:55:17	13006	334	-27501	64	T	p-	0.3540	2.1856	1.2307	313.0	200.1	67.4	21S	131E
-0223	Jan 14	16:16:23	13000	334	-27495	69	N	h-	-1.0370	0.9906	-0.0794	274.5	-	-	21N	173E
-0223	Jun 11	22:11:24	12995	334	-27490	36	Ne	t-	-1.5362	0.0505	-0.9718	66.0	-	-	24S	80E
-0223	Jul 11	08:50:11	12993	334	-27489	74	N	t-	1.1390	0.7670	-0.2307	232.4	-	-	22S	79W
-0223	Dec 05	11:27:41	12989	334	-27484	41	N	a-	1.0982	0.8390	-0.1529	232.4	-	-	23N	119W
-0222	Jun 01	02:07:15	12982	333	-27478	46	P	t-	-0.8198	1.3858	0.3221	318.1	133.5	-	22S	20E
-0222	Nov 25	02:38:42	12976	333	-27472	51	T	p-	0.4213	2.0706	1.0990	307.6	191.7	45.4	21N	12E
-0221	May 21	02:45:56	12970	333	-27466	56	T-	pp	-0.0556	2.7867	1.7258	370.8	234.4	105.5	19S	11E
-0221	Nov 14	17:32:46	12964	333	-27460	61	T-	p-	-0.2489	2.3998	1.4027	326.3	208.6	84.2	17N	148E
-0220	May 09	07:27:05	12958	333	-27454	66	P	h-	0.7099	1.5638	0.5473	311.9	160.4	-	16S	59W
-0220	Nov 03	03:37:22	12952	333	-27448	71	P	h-	-0.9810	1.0841	0.0323	277.2	42.1	-	13N	3W
-0219	Mar 30	11:28:51	12948	333	-27443	38	N	a-	-1.1358	0.7507	-0.2032	217.2	-	-	3S	117W
-0219	Apr 28	19:18:01	12947	332	-27442	76	N	a-	1.4129	0.2481	-0.7173	133.7	-	-	12S	124E
-0219	Sep 23	12:02:23	12942	332	-27437	43	N	t-	1.2943	0.5311	-0.5639	218.0	-	-	0S	128W
-0218	Mar 20	04:17:33	12936	332	-27431	48	T	a-	-0.4250	2.0554	1.1004	307.6	193.0	46.1	1N	8W
-0218	Sep 12	12:43:40	12930	332	-27425	53	P	t-	0.5686	1.8474	0.7826	340.6	189.3	-	5S	138W
-0217	Mar 09	18:50:10	12924	332	-27419	58	T	p-	0.3055	2.2962	1.2986	330.6	209.2	76.8	6N	135E
-0217	Sep 01	20:00:44	12918	332	-27413	63	T-	p-	-0.1830	2.5251	1.5192	337.5	216.7	93.4	10S	114E

-0216	Feb 27	02:59:59	12912	332	-27407	68	N	t-	1.0851	0.8957	-0.1612	262.6	-	-	-	11N	13E
-0216	Aug 21	09:59:09	12906	331	-27401	73	P	a-	-0.8858	1.2125	0.2527	263.2	106.5	-	-	15S	95W
-0215	Jan 16	10:04:55	12901	331	-27396	40	N	t-	-1.1740	0.7526	-0.3439	253.0	-	-	-	21N	94W
-0215	Jul 12	18:46:47	12895	331	-27390	45	P	a-	0.9665	1.0660	0.1031	254.3	70.3	-	-	22S	132E
-0214	Jan 05	12:20:38	12889	331	-27384	50	T	-p	-0.4479	2.0646	1.0084	342.5	202.4	14.5	-	23N	129W
-0214	Jul 02	07:09:35	12883	331	-27378	55	T+	-p	0.2325	2.4376	1.4254	343.9	218.8	89.5	-	23S	54W
-0214	Dec 25	21:45:59	12877	331	-27372	60	T+	p-	0.2657	2.3710	1.3699	327.7	208.5	82.1	-	24N	88E
-0213	Jun 21	12:27:33	12871	330	-27366	65	P	t-	-0.5549	1.8695	0.8108	346.0	194.5	-	-	24S	134W
-0213	Dec 15	12:24:48	12865	330	-27360	70	P	a-	0.9198	1.1560	0.1843	257.5	91.1	-	-	24N	133W
-0212	May 10	23:00:25	12860	330	-27355	37	N	t-	1.4963	0.1387	-0.9132	112.3	-	-	-	15S	67E
-0212	Jun 09	13:09:38	12859	330	-27354	75	N	t-	-1.3150	0.4783	-0.5875	205.8	-	-	-	24S	146W
-0212	Nov 04	15:44:38	12854	330	-27349	42	N	-a	-1.1450	0.7625	-0.2482	228.8	-	-	-	14N	175E
-0211	Apr 30	05:37:58	12848	330	-27343	47	P	-t	0.6774	1.6159	0.6143	308.9	165.6	-	-	13S	32W
-0211	Oct 24	23:51:03	12842	330	-27337	52	P	-a	-0.4877	1.9966	0.9300	344.3	199.1	-	-	11N	53E
-0210	Apr 19	19:06:43	12836	330	-27331	57	T-	pp	-0.1010	2.6506	1.6945	322.0	212.8	97.8	-	10S	126E
-0210	Oct 14	01:02:58	12830	329	-27325	62	T+	pp	0.2075	2.5276	1.4280	375.0	230.0	92.8	-	7N	35E
-0209	Apr 09	12:00:19	12825	329	-27319	67	P	a-	-0.8236	1.3198	0.3732	268.9	126.4	-	-	7S	127W
-0209	Oct 03	00:42:42	12819	329	-27313	72	P	t-	0.8941	1.2584	0.1773	305.6	100.1	-	-	3N	40E
-0208	Feb 28	17:04:21	12814	329	-27308	39	N	-a	1.0800	0.8847	-0.1319	248.9	-	-	-	10N	162E
-0208	Aug 22	18:34:23	12808	329	-27302	44	N	-a	-1.1719	0.7017	-0.2862	218.7	-	-	-	14S	136E
-0208	Sep 21	06:02:17	12807	329	-27301	82	N	a-	1.5433	0.0390	-0.9861	56.9	-	-	-	1S	39W
-0207	Feb 16	22:58:56	12802	329	-27296	49	T	t-	0.3815	2.1949	1.1218	358.1	214.4	54.9	-	14N	73E
-0207	Aug 12	09:51:27	12796	328	-27290	54	T	-a	-0.4256	2.0527	1.1010	306.2	192.5	46.1	-	17S	94W
-0206	Feb 05	23:01:24	12790	328	-27284	59	T	p-	-0.3299	2.3002	1.2059	369.5	221.9	70.2	-	17N	72E
-0206	Aug 02	02:33:53	12784	328	-27278	64	T	p-	0.2944	2.2971	1.3379	316.6	204.5	78.7	-	19S	15E
-0205	Jan 26	00:12:18	12778	328	-27272	69	Nx	h-	-1.0156	1.0270	-0.0374	277.3	-	-	-	19N	54E
-0205	Jul 22	16:03:07	12772	328	-27266	74	N	t-	1.0765	0.8845	-0.1189	247.7	-	-	-	20S	173E
-0205	Dec 16	20:13:56	12768	328	-27261	41	N	-a	1.0975	0.8387	-0.1504	231.8	-	-	-	25N	110E
-0204	Jun 11	08:29:01	12762	328	-27255	46	P	-t	-0.9077	1.2254	0.1600	305.0	96.5	-	-	24S	76W
-0204	Dec 05	11:32:57	12756	327	-27249	51	T	-p	0.4220	2.0694	1.0976	307.7	191.6	45.1	-	23N	121W
-0203	May 31	09:09:40	12750	327	-27243	56	T-	pp	-0.1434	2.6245	1.5658	368.5	231.9	100.7	-	22S	86W
-0203	Nov 25	02:17:47	12744	327	-27237	61	T-	p-	-0.2491	2.4010	1.4009	327.4	208.9	84.2	-	20N	16E
-0202	May 20	14:18:26	12738	327	-27231	66	P	h-	0.6279	1.7119	0.6999	318.9	176.4	-	-	19S	163W
-0202	Nov 14	11:58:48	12732	327	-27225	71	P	h-	-0.9803	1.0876	0.0315	278.7	41.7	-	-	17N	129W
-0201	Apr 10	19:08:31	12727	327	-27220	38	N	-a	-1.1928	0.6442	-0.3060	202.9	-	-	-	8S	126E
-0201	May 10	02:37:11	12726	327	-27219	76	N	a-	1.3392	0.3814	-0.5801	163.2	-	-	-	15S	12E
-0201	Oct 04	19:35:52	12721	326	-27214	43	N	t-	1.3206	0.4843	-0.6138	209.2	-	-	-	4N	116E
-0200	Mar 30	12:06:28	12716	326	-27208	48	T	-a	-0.4789	1.9558	1.0021	304.5	187.9	6.9	-	3S	127W
-0200	Sep 22	20:21:37	12710	326	-27202	53	P	-t	0.6001	1.7899	0.7245	336.9	183.5	-	-	1S	106E

2ND CENTURY BCE

In the 2nd century BCE the total number of lunar eclipses was 240 lunar eclipses:
85 penumbral lunar eclipses, 86 partial lunar eclipses, 69 total lunar eclipses
(48 central total lunar eclipses, 21 non-central total lunar eclipses).

	CALENDAR	TD	ΔT	ΔT	LUNA	SAROS	ECL.	QSE	GAMMA	PEN	UM	PEN	PAR	TOTAL	ZEN	ZEN	
	DATE	OF	s	SIGMA	NUM	NUM	TYPE		MAG.	MAG.	DUR.	DUR.	DUR.	LAT	LONG		
	GREATEST		S										m	m	m	°	°
ECLIPSE																	
-0199 Mar 20	02:31:12	12704	326	-27196	58	T+	p-	0.2580	2.3835	1.3856	333.6	212.8	84.9	2N	18E		
-0199 Sep 12	03:55:24	12698	326	-27190	63	T-	p-	-0.1459	2.5933	1.5874	337.3	217.3	96.1	6S	7W		
-0198 Mar 09	10:22:38	12692	326	-27184	68	N	t-	1.0423	0.9739	-0.0825	272.3	-	-	7N	99W		
-0198 Sep 01	18:01:13	12686	326	-27178	73	P	a-	-0.8425	1.2926	0.3313	269.0	120.3	-	11S	143E		
-0197 Jan 27	17:47:27	12681	325	-27173	40	N	-t	-1.1941	0.7135	-0.3789	246.8	-	-	18N	150E		
-0197 Jul 24	02:16:27	12676	325	-27167	45	N	-a	1.0324	0.9474	-0.0202	243.7	-	-	20S	19E		
-0197 Aug 22	10:35:35	12675	325	-27166	83	Nb	a-	-1.5284	0.0324	-0.9256	48.3	-	-	15S	105W		
-0196 Jan 16	20:29:40	12670	325	-27161	50	P	-p	-0.4597	2.0401	0.9892	340.1	200.7	-	21N	109E		
-0196 Jul 12	14:10:12	12664	325	-27155	55	T	-a	0.3065	2.3045	1.2869	342.8	214.8	77.6	23S	160W		
-0195 Jan 05	06:23:07	12658	325	-27149	60	T+	p-	0.2586	2.3818	1.3849	326.7	208.5	83.1	23N	41W		
-0195 Jul 01	18:56:38	12652	325	-27143	65	P	t-	-0.4719	2.0234	0.9613	353.8	206.5	-	24S	128E		
-0195 Dec 25	21:15:18	12647	324	-27137	70	P	a-	0.9158	1.1626	0.1923	257.9	92.9	-	25N	95E		
-0194 Jun 20	19:31:57	12641	324	-27131	75	N	t-	-1.2284	0.6371	-0.4283	233.6	-	-	25S	118E		
-0194 Nov 16	00:21:49	12636	324	-27126	42	N	-a	-1.1516	0.7523	-0.2624	228.3	-	-	17N	45E		
-0193 May 11	12:39:59	12630	324	-27120	47	P	-t	0.7511	1.4782	0.4814	299.0	149.2	-	16S	139W		
-0193 Nov 05	08:01:29	12624	324	-27114	52	P	-a	-0.4976	1.9809	0.9097	344.9	198.2	-	14N	71W		
-0192 Apr 30	02:34:41	12618	324	-27108	57	T-	pp	-0.0314	2.7763	1.8238	321.6	213.5	99.8	14S	13E		
-0192 Oct 24	08:50:43	12613	324	-27102	62	T+	pp	0.1905	2.5602	1.4576	376.1	230.8	94.7	11N	83W		
-0191 Apr 19	19:37:47	12607	323	-27096	67	P	a-	-0.7605	1.4350	0.4897	276.8	142.5	-	11S	117E		
-0191 Oct 13	08:32:24	12601	323	-27090	72	P	t-	0.8713	1.3005	0.2186	308.7	110.3	-	7N	79W		
-0190 Mar 11	00:44:31	12596	323	-27085	39	N	-a	1.1283	0.7962	-0.2205	239.1	-	-	6N	45E		

-0190	Apr 09	11:10:31	12595	323	-27084	77	Nb	a-	-1.5270	0.0466	-0.9345	59.9	-	-	7S	115W
-0190	Sep 03	02:27:59	12590	323	-27079	44	N	-a	-1.2095	0.6327	-0.3554	208.5	-	-	10S	16E
-0190	Oct 02	14:08:15	12589	323	-27078	82	N	a-	1.5150	0.0908	-0.9341	86.1	-	-	3N	162W
-0189	Feb 28	06:22:41	12585	323	-27073	49	T	-t	0.4244	2.1155	1.0435	356.1	210.4	33.7	10N	39W
-0189	Aug 23	17:48:59	12579	323	-27067	54	T	-a	-0.4728	1.9671	1.0132	303.2	187.5	17.1	14S	146E
-0188	Feb 17	06:25:54	12573	323	-27061	59	T	p-	-0.2940	2.3640	1.2737	370.5	224.8	79.0	13N	40W
-0188	Aug 12	10:18:43	12567	322	-27055	64	T+	p-	0.2405	2.3984	1.4346	319.7	207.8	86.2	16S	102W
-0187	Feb 05	08:03:33	12561	322	-27049	69	P	h-	-0.9895	1.0719	0.0134	280.7	27.6	-	16N	64W
-0187	Aug 01	23:18:57	12556	322	-27043	74	N	t-	1.0169	0.9969	-0.0126	261.2	-	-	18S	63E
-0187	Dec 27	04:59:37	12551	322	-27038	41	N	-a	1.0980	0.8362	-0.1498	230.8	-	-	25N	21W
-0186	Jun 22	14:51:20	12545	322	-27032	46	Nx	-t	-0.9947	1.0669	-0.0006	290.0	-	-	25S	171W
-0186	Dec 16	20:25:49	12539	322	-27026	51	T	-p	0.4238	2.0660	1.0944	307.7	191.5	44.4	24N	106E
-0185	Jun 11	15:35:41	12533	321	-27020	56	T-	pp	-0.2298	2.4649	1.4081	365.2	227.7	91.4	23S	177E
-0185	Dec 06	11:02:08	12528	321	-27014	61	T-	p-	-0.2490	2.4025	1.3998	328.4	209.4	84.3	22N	115W
-0184	May 30	21:12:24	12522	321	-27008	66	P	h-	0.5471	1.8582	0.8502	324.7	188.8	-	21S	92E
-0184	Nov 24	20:20:18	12516	321	-27002	71	P	h-	-0.9801	1.0898	0.0300	279.9	40.9	-	19N	105E
-0183	Apr 21	02:44:24	12511	321	-26997	38	N	-a	-1.2533	0.5315	-0.4154	186.0	-	-	12S	10E
-0183	May 20	09:56:26	12510	321	-26996	76	N	a-	1.2645	0.5167	-0.4414	186.9	-	-	18S	99W
-0183	Oct 15	03:17:04	12506	321	-26991	43	N	-t	1.3408	0.4487	-0.6520	202.1	-	-	8N	0W
-0182	Apr 10	19:46:41	12500	321	-26985	48	P	-a	-0.5399	1.8436	0.8907	300.5	181.0	-	7S	116E
-0182	Oct 04	04:10:26	12494	320	-26979	53	P	-t	0.6234	1.7472	0.6815	333.7	178.8	-	3N	13W
-0181	Mar 31	10:01:20	12488	320	-26973	58	T+	pp	0.2021	2.4864	1.4880	336.6	216.4	92.0	2S	97W
-0181	Sep 23	12:01:05	12483	320	-26967	63	T-	p-	-0.1169	2.6463	1.6405	336.8	217.5	97.7	2S	130W
-0180	Mar 19	17:33:56	12477	320	-26961	68	P	t-	0.9909	1.0680	0.0121	283.1	26.5	-	3N	151E
-0180	Sep 12	02:13:12	12471	320	-26955	73	P	a-	-0.8071	1.3585	0.3955	273.5	130.1	-	7S	18E
-0179	Feb 07	01:22:33	12466	320	-26950	40	N	-t	-1.2203	0.6631	-0.4246	238.5	-	-	15N	36E
-0179	Aug 03	09:50:01	12461	319	-26944	45	N	-a	1.0943	0.8363	-0.1363	232.5	-	-	18S	95W
-0179	Sep 01	18:36:51	12460	319	-26943	83	N	a-	-1.4901	0.1049	-0.8576	86.5	-	-	11S	133E
-0178	Jan 27	04:34:32	12455	319	-26938	50	P	-t	-0.4758	2.0077	0.9627	337.3	198.4	-	19N	13W
-0178	Jul 23	21:13:10	12449	319	-26932	55	T	-a	0.3773	2.1775	1.1541	341.0	209.6	59.6	21S	94E
-0177	Jan 16	14:56:07	12444	319	-26926	60	T+	p-	0.2476	2.3997	1.4074	325.9	208.8	84.7	22N	169W
-0177	Jul 13	01:28:47	12438	319	-26920	65	T	t-	-0.3919	2.1721	1.1062	360.2	215.8	52.1	23S	30E
-0176	Jan 06	06:03:05	12432	319	-26914	70	P	a-	0.9099	1.1725	0.2040	258.5	95.6	-	24N	37W
-0176	Jul 01	01:58:26	12426	319	-26908	75	N	t-	-1.1440	0.7920	-0.2734	256.1	-	-	25S	22E
-0176	Nov 26	09:00:32	12422	318	-26903	42	N	-a	-1.1564	0.7453	-0.2728	228.2	-	-	20N	85W
-0175	May 21	19:42:44	12416	318	-26897	47	P	-t	0.8250	1.3403	0.3479	288.0	129.0	-	19S	114E
-0175	Nov 15	16:14:48	12410	318	-26891	52	P	-a	-0.5044	1.9704	0.8953	345.8	197.6	-	18N	165E
-0174	May 11	09:59:32	12405	318	-26885	57	T+	pp	0.0412	2.7567	1.8074	320.7	213.1	99.6	17S	100W
-0174	Nov 04	16:44:23	12399	318	-26879	62	T+	pp	0.1784	2.5835	1.4786	376.8	231.4	95.9	15N	157E
-0173	May 01	03:10:34	12393	318	-26873	67	P	a-	-0.6937	1.5572	0.6126	284.4	156.5	-	14S	2E

-0173	Oct 24	16:29:34	12387	317	-26867	72	P	t-	0.8541	1.3322	0.2503	310.6	117.2	-	11N	161E
-0172	Mar 21	08:15:05	12383	317	-26862	39	N	-a	1.1834	0.6953	-0.3218	226.5	-	-	2N	69W
-0172	Apr 19	18:34:09	12382	317	-26861	77	N	a-	-1.4688	0.1540	-0.8281	108.3	-	-	11S	132E
-0172	Sep 13	10:31:40	12377	317	-26856	44	N	-a	-1.2397	0.5775	-0.4109	199.8	-	-	6S	107W
-0172	Oct 12	22:23:01	12376	317	-26855	82	N	a-	1.4932	0.1305	-0.8938	102.6	-	-	8N	72E
-0171	Mar 10	13:36:12	12371	317	-26850	49	P	-t	0.4752	2.0217	0.9509	353.1	204.9	-	6N	149W
-0171	Sep 03	01:54:06	12366	317	-26844	54	P	-a	-0.5140	1.8928	0.9365	300.4	182.6	-	10S	23E
-0170	Feb 27	13:40:42	12360	317	-26838	59	T-	pp	-0.2498	2.4430	1.3570	371.5	227.8	87.4	9N	150W
-0170	Aug 23	18:10:35	12354	317	-26832	64	T+	p-	0.1927	2.4886	1.5198	322.2	210.2	91.2	13S	139E
-0169	Feb 16	15:45:08	12349	316	-26826	69	P	h-	-0.9544	1.1331	0.0809	285.5	67.1	-	13N	179E
-0169	Aug 13	06:41:49	12343	316	-26820	74	P	t-	0.9636	1.0978	0.0820	272.5	65.8	-	15S	49W
-0168	Jan 07	13:41:02	12338	316	-26815	41	N	-a	1.1029	0.8254	-0.1570	229.0	-	-	24N	151W
-0168	Jul 02	21:16:08	12333	316	-26809	46	N	-t	-1.0789	0.9135	-0.1563	273.1	-	-	25S	92E
-0168	Dec 27	05:16:18	12327	316	-26803	51	T	-p	0.4277	2.0585	1.0875	307.6	191.3	42.9	24N	26W
-0167	Jun 21	22:03:56	12321	316	-26797	56	T	pp	-0.3153	2.3074	1.2519	360.7	221.5	76.0	24S	79E
-0167	Dec 16	19:46:01	12316	316	-26791	61	T-	p-	-0.2492	2.4030	1.3984	329.5	209.8	84.4	23N	115E
-0166	Jun 11	04:06:00	12310	315	-26785	66	T	a-	0.4646	2.0078	1.0031	329.4	198.9	8.8	22S	12W
-0166	Dec 06	04:43:17	12304	315	-26779	71	P	t-	-0.9818	1.0882	0.0254	280.8	37.8	-	21N	21W
-0165	May 02	10:15:18	12300	315	-26774	38	N	-a	-1.3183	0.4109	-0.5333	165.2	-	-	15S	104W
-0165	May 31	17:14:43	12299	315	-26773	76	N	a-	1.1882	0.6554	-0.3000	207.0	-	-	20S	151E
-0165	Oct 26	11:05:53	12294	315	-26768	43	N	-t	1.3549	0.4238	-0.6788	196.9	-	-	13N	119W
-0164	Apr 21	03:21:45	12288	315	-26762	48	P	-a	-0.6048	1.7243	0.7717	295.6	172.2	-	11S	0W
-0164	Oct 14	12:08:23	12283	315	-26756	53	P	-t	0.6403	1.7163	0.6506	331.1	175.1	-	8N	134W
-0163	Apr 10	17:24:16	12277	314	-26750	58	T+	pp	0.1411	2.5988	1.5995	339.3	219.4	97.6	7S	150E
-0163	Oct 03	20:14:42	12271	314	-26744	63	T-	p-	-0.0939	2.6886	1.6828	336.1	217.4	98.6	3N	105E
-0162	Mar 31	00:36:41	12266	314	-26738	68	P	t-	0.9331	1.1739	0.1183	294.1	82.0	-	2S	44E
-0162	Sep 23	10:32:55	12260	314	-26732	73	P	a-	-0.7782	1.4124	0.4476	276.9	137.1	-	2S	108W
-0161	Feb 18	08:49:04	12255	314	-26727	40	N	-t	-1.2535	0.5999	-0.4829	227.6	-	-	12N	77W
-0161	Aug 14	17:30:43	12250	314	-26721	45	N	-a	1.1495	0.7378	-0.2403	221.4	-	-	15S	149E
-0161	Sep 13	02:46:35	12249	314	-26720	83	N	a-	-1.4592	0.1640	-0.8030	107.9	-	-	7S	9E
-0160	Feb 07	12:32:27	12244	314	-26715	50	P	-t	-0.4980	1.9639	0.9250	334.0	195.3	-	16N	133W
-0160	Aug 03	04:21:35	12239	313	-26709	55	T	-a	0.4425	2.0608	1.0314	338.8	203.5	28.0	18S	14W
-0159	Jan 26	23:22:55	12233	313	-26703	60	T+	p-	0.2311	2.4277	1.4402	325.2	209.3	86.8	20N	64E
-0159	Jul 23	08:06:24	12227	313	-26697	65	T	tp	-0.3168	2.3118	1.2420	365.3	222.8	75.2	21S	70W
-0158	Jan 16	14:44:44	12222	313	-26691	70	P	a-	0.8990	1.1914	0.2251	259.9	100.1	-	23N	167W
-0158	Jul 12	08:30:01	12216	313	-26685	75	N	t-	-1.0627	0.9413	-0.1244	274.6	-	-	24S	76W
-0158	Dec 07	17:39:01	12211	313	-26680	42	N	-a	-1.1608	0.7386	-0.2823	228.1	-	-	21N	145E
-0157	Jun 02	02:45:30	12206	313	-26674	47	P	-h	0.8997	1.2015	0.2127	275.8	102.5	-	21S	8E
-0157	Nov 27	00:29:20	12200	312	-26668	52	P	-a	-0.5094	1.9627	0.8844	346.6	197.2	-	20N	41E
-0156	May 21	17:23:00	12195	312	-26662	57	T+	pp	0.1155	2.6192	1.6722	319.1	211.6	97.0	19S	148E

-0156	Nov 15	00:43:19	12189	312	-26656	62	T+	pp	0.1710	2.5980	1.4915	377.3	231.7	96.7	18N	37E
-0155	May 11	10:37:55	12183	312	-26650	67	P	a-	-0.6225	1.6878	0.7432	291.7	169.0	-	17S	111W
-0155	Nov 04	00:34:35	12178	312	-26644	72	P	h-	0.8424	1.3534	0.2719	311.6	121.5	-	15N	39E
-0154	Apr 01	15:35:47	12173	312	-26639	39	N	-h	1.2455	0.5816	-0.4361	210.2	-	-	2S	179E
-0154	May 01	01:49:58	12172	312	-26638	77	N	h-	-1.4050	0.2718	-0.7118	142.8	-	-	15S	21E
-0154	Sep 24	18:44:41	12168	311	-26633	44	N	-a	-1.2634	0.5343	-0.4545	192.5	-	-	2S	129E
-0154	Oct 24	06:46:15	12167	311	-26632	82	N	a-	1.4771	0.1596	-0.8640	112.8	-	-	12N	55W
-0153	Mar 21	20:39:07	12162	311	-26627	49	P	-t	0.5343	1.9127	0.8432	349.0	197.1	-	2N	103E
-0153	Sep 14	10:08:02	12156	311	-26621	54	P	-a	-0.5482	1.8314	0.8725	298.0	178.2	-	6S	102W
-0152	Mar 09	20:48:14	12151	311	-26615	59	T-	pp	-0.1991	2.5339	1.4523	372.4	230.5	94.7	5N	102E
-0152	Sep 03	02:08:31	12145	311	-26609	64	T+	p-	0.1504	2.5688	1.5948	324.4	212.0	94.6	9S	18E
-0151	Feb 26	23:21:44	12140	311	-26603	69	P	h-	-0.9142	1.2037	0.1579	290.7	92.4	-	9N	64E
-0151	Aug 23	14:10:00	12134	311	-26597	74	P	t-	0.9151	1.1901	0.1678	282.2	93.3	-	12S	162W
-0150	Jan 17	22:18:11	12130	310	-26592	41	N	-a	1.1118	0.8072	-0.1712	226.3	-	-	22N	80E
-0150	Jul 14	03:44:42	12124	310	-26586	46	N	-t	-1.1596	0.7669	-0.3056	254.3	-	-	24S	5W
-0149	Jan 07	14:02:35	12118	310	-26580	51	T	-a	0.4353	2.0442	1.0742	307.2	190.7	39.7	23N	157W
-0149	Jul 03	04:38:09	12113	310	-26574	56	T	-t	-0.3965	2.1580	1.1035	355.3	213.8	51.1	24S	19W
-0149	Dec 28	04:25:01	12107	310	-26568	61	T-	p-	-0.2458	2.4101	1.4040	330.6	210.5	85.0	23N	15W
-0148	Jun 21	11:05:33	12102	310	-26562	66	T	a-	0.3858	2.1511	1.1491	332.9	206.3	58.1	23S	117W
-0148	Dec 16	13:03:26	12096	310	-26556	71	P	t-	-0.9815	1.0899	0.0249	281.9	37.4	-	23N	146W
-0147	May 12	17:43:16	12092	309	-26551	38	N	-a	-1.3860	0.2858	-0.6564	139.2	-	-	19S	143E
-0147	Jun 11	00:34:13	12091	309	-26550	76	N	a-	1.1119	0.7944	-0.1591	224.1	-	-	22S	40E
-0147	Nov 05	19:00:34	12086	309	-26545	43	N	-t	1.3645	0.4068	-0.6970	193.1	-	-	16N	122E
-0146	May 02	10:50:20	12081	309	-26539	48	P	-a	-0.6751	1.5955	0.6427	289.5	160.8	-	15S	114W
-0146	Oct 25	20:14:55	12075	309	-26533	53	P	-t	0.6507	1.6968	0.6317	329.1	172.6	-	12N	103E
-0145	Apr 22	00:37:43	12069	309	-26527	58	T+	pp	0.0729	2.7246	1.7240	341.6	221.7	101.4	11S	40E
-0145	Oct 15	04:38:22	12064	309	-26521	63	T-	p-	-0.0783	2.7170	1.7116	335.3	217.0	98.9	7N	22W
-0144	Apr 10	07:29:48	12058	308	-26515	68	P	t-	0.8680	1.2934	0.2379	305.5	114.5	-	6S	62W
-0144	Oct 03	19:00:58	12053	308	-26509	73	P	a-	-0.7558	1.4543	0.4878	279.4	142.1	-	2N	123E
-0143	Feb 28	16:07:42	12048	308	-26504	40	N	-t	-1.2931	0.5244	-0.5531	213.7	-	-	8N	172E
-0143	Aug 25	01:17:33	12043	308	-26498	45	N	-a	1.1990	0.6499	-0.3340	210.5	-	-	11S	31E
-0143	Sep 23	11:03:55	12042	308	-26497	83	N	a-	-1.4346	0.2114	-0.7602	122.3	-	-	3S	117W
-0142	Feb 17	20:23:05	12037	308	-26492	50	P	-t	-0.5272	1.9069	0.8746	330.0	191.1	-	12N	109E
-0142	Aug 14	11:35:14	12032	308	-26486	55	P	-a	0.5026	1.9538	0.9180	336.3	196.6	-	15S	123W
-0141	Feb 07	07:43:56	12026	308	-26480	60	T+	p-	0.2089	2.4658	1.4835	324.6	210.0	89.4	17N	61W
-0141	Aug 03	14:49:54	12021	307	-26474	65	T-	pp	-0.2466	2.4429	1.3689	369.4	227.8	88.5	19S	172W
-0140	Jan 27	23:20:51	12015	307	-26468	70	P	a-	0.8835	1.2186	0.2547	261.9	106.0	-	20N	64E
-0140	Jul 22	15:08:47	12010	307	-26462	75	P	t-	-0.9861	1.0821	0.0158	289.7	30.8	-	22S	176W
-0140	Dec 18	02:16:30	12005	307	-26457	42	N	-a	-1.1655	0.7312	-0.2920	227.9	-	-	22N	16E
-0139	Jun 12	09:49:59	12000	307	-26451	47	P	-h	0.9738	1.0639	0.0783	262.3	63.2	-	22S	99W

-0139	Dec 07	08:44:13	11994	307	-26445	52	P	-h	-0.5136	1.9563	0.8755	347.4	197.0	-	22N	82W
-0138	Jun 02	00:46:01	11989	307	-26439	57	T+	-p	0.1906	2.4807	1.5354	316.9	209.0	91.7	22S	37E
-0138	Nov 26	08:43:49	11983	306	-26433	62	T+	pp	0.1646	2.6101	1.5029	377.6	232.0	97.3	21N	83W
-0137	May 22	18:03:16	11978	306	-26427	67	P	a-	-0.5498	1.8216	0.8764	298.3	179.6	-	20S	137E
-0137	Nov 15	08:44:23	11972	306	-26421	72	P	h-	0.8341	1.3681	0.2878	312.0	124.4	-	19N	84W
-0136	Apr 11	22:48:39	11968	306	-26416	39	N	-h	1.3132	0.4579	-0.5607	189.5	-	-	6S	68E
-0136	May 11	09:01:45	11967	306	-26415	77	N	h-	-1.3383	0.3952	-0.5904	170.9	-	-	18S	88W
-0136	Oct 05	03:05:35	11962	306	-26410	44	N	-a	-1.2816	0.5009	-0.4881	186.5	-	-	2N	2E
-0136	Nov 03	15:14:51	11961	306	-26409	82	N	a-	1.4647	0.1817	-0.8405	119.7	-	-	16N	177E
-0135	Apr 01	03:33:01	11957	306	-26404	49	P	-t	0.6001	1.7915	0.7231	343.5	186.8	-	3S	2W
-0135	Sep 24	18:29:54	11951	306	-26398	54	P	-a	-0.5761	1.7815	0.8200	295.9	174.2	-	1S	131E
-0134	Mar 21	03:45:03	11946	305	-26392	59	T-	pp	-0.1391	2.6416	1.5645	372.9	232.9	100.7	1N	4W
-0134	Sep 14	10:14:59	11940	305	-26386	64	T+	pp	0.1157	2.6352	1.6559	326.3	213.3	96.7	5S	105W
-0133	Mar 10	06:49:00	11935	305	-26380	69	P	h-	-0.8654	1.2900	0.2507	296.6	114.5	-	5N	50W
-0133	Sep 03	21:46:18	11929	305	-26374	74	P	t-	0.8740	1.2689	0.2400	290.3	110.8	-	8S	83E
-0132	Jan 29	06:48:25	11925	305	-26369	41	N	-a	1.1269	0.7773	-0.1969	222.1	-	-	20N	48W
-0132	Feb 27	16:56:30	11924	305	-26368	79	N	a-	-1.5275	0.0487	-0.9383	61.0	-	-	8N	159E
-0132	Jul 24	10:19:36	11919	305	-26363	46	N	-t	-1.2347	0.6306	-0.4449	234.0	-	-	22S	104W
-0131	Jan 17	22:44:13	11914	304	-26357	51	T	-a	0.4467	2.0225	1.0539	306.7	189.8	34.0	22N	72E
-0131	Jul 13	11:16:34	11908	304	-26351	56	P	-t	-0.4750	2.0136	0.9598	349.1	204.4	-	23S	119W
-0130	Jan 07	13:01:00	11903	304	-26345	61	T-	p-	-0.2404	2.4205	1.4133	331.8	211.3	85.9	23N	143W
-0130	Jul 02	18:08:17	11897	304	-26339	66	T	a-	0.3082	2.2923	1.2926	335.4	211.9	77.3	23S	137E
-0130	Dec 27	21:20:28	11892	304	-26333	71	P	t-	-0.9794	1.0945	0.0279	283.2	39.7	-	23N	91E
-0129	May 24	01:09:11	11887	304	-26328	38	N	-a	-1.4555	0.1576	-0.7832	104.5	-	-	21S	30E
-0129	Jun 22	07:56:09	11887	304	-26327	76	N	a-	1.0369	0.9314	-0.0208	238.6	-	-	23S	71W
-0129	Nov 17	03:00:48	11882	304	-26322	43	N	-t	1.3700	0.3970	-0.7074	190.8	-	-	20N	1E
-0128	May 12	18:15:45	11877	303	-26316	48	P	-a	-0.7473	1.4634	0.5097	282.4	146.5	-	18S	134E
-0128	Nov 05	04:27:28	11871	303	-26310	53	P	-t	0.6571	1.6845	0.6205	327.4	171.0	-	16N	21W
-0127	May 02	07:46:01	11866	303	-26304	58	T+	pp	0.0013	2.8567	1.8544	343.4	223.0	102.9	14S	68W
-0127	Oct 25	13:08:43	11860	303	-26298	63	T-	p-	-0.0677	2.7361	1.7314	334.4	216.6	99.0	11N	151W
-0126	Apr 21	14:14:35	11855	303	-26292	68	P	t-	0.7966	1.4244	0.3687	316.6	140.2	-	10S	165W
-0126	Oct 15	03:36:22	11849	303	-26286	73	P	a-	-0.7396	1.4849	0.5168	281.2	145.5	-	7N	7W
-0125	Mar 11	23:17:52	11845	303	-26281	40	N	-t	-1.3397	0.4362	-0.6360	195.9	-	-	4N	63E
-0125	Apr 10	15:04:25	11844	303	-26280	78	Nb	t-	1.5507	0.0506	-1.0243	69.9	-	-	5S	176W
-0125	Sep 05	09:11:54	11839	302	-26275	45	N	-a	1.2417	0.5745	-0.4152	200.2	-	-	7S	89W
-0125	Oct 04	19:28:13	11839	302	-26274	83	N	a-	-1.4161	0.2475	-0.7285	132.2	-	-	2N	115E
-0124	Feb 29	04:06:21	11834	302	-26269	50	P	-t	-0.5633	1.8374	0.8116	325.2	185.6	-	9N	9W
-0124	Aug 24	18:56:25	11829	302	-26263	55	P	-a	0.5555	1.8600	0.8178	333.8	189.4	-	12S	125E
-0123	Feb 17	15:57:21	11823	302	-26257	60	T+	p-	0.1800	2.5161	1.5391	324.1	210.9	92.2	13N	174E
-0123	Aug 13	21:40:09	11818	302	-26251	65	T-	pp	-0.1823	2.5631	1.4847	372.4	231.4	96.7	16S	85E

-0122	Feb 07	07:49:12	11812	302	-26245	70	P	a-	0.8621	1.2567	0.2953	264.8	113.5	-	17N	63W
-0122	Aug 02	21:55:57	11807	302	-26239	75	P	t-	-0.9157	1.2117	0.1446	301.8	91.3	-	20S	81E
-0122	Dec 29	10:49:00	11802	301	-26234	42	N	-a	-1.1734	0.7175	-0.3074	226.9	-	-	22N	111W
-0121	Jun 23	16:58:05	11797	301	-26228	47	N	-h	1.0455	0.9312	-0.0519	247.9	-	-	23S	154E
-0121	Dec 18	16:57:01	11792	301	-26222	52	P	-h	-0.5184	1.9484	0.8659	348.0	196.7	-	23N	155E
-0120	Jun 12	08:09:38	11786	301	-26216	57	T+	-p	0.2654	2.3429	1.3987	314.1	205.2	83.3	23S	75W
-0120	Dec 06	16:45:54	11781	301	-26210	62	T+	pp	0.1596	2.6192	1.5121	377.7	232.2	97.7	23N	156E
-0119	Jun 02	01:25:54	11775	301	-26204	67	T	a-	-0.4753	1.9588	1.0124	304.3	188.7	16.7	22S	26E
-0119	Nov 25	16:58:58	11770	300	-26198	72	P	h-	0.8288	1.3769	0.2984	311.8	126.2	-	21N	152E
-0118	Apr 23	05:51:34	11766	300	-26193	39	N	-h	1.3876	0.3220	-0.6979	161.5	-	-	10S	39W
-0118	May 22	16:07:01	11765	300	-26192	77	N	h-	-1.2670	0.5272	-0.4610	195.7	-	-	21S	165E
-0118	Oct 16	11:35:27	11760	300	-26187	44	N	-a	-1.2933	0.4794	-0.5096	182.4	-	-	7N	127W
-0118	Nov 14	23:49:52	11759	300	-26186	82	N	a-	1.4568	0.1953	-0.8252	123.6	-	-	19N	48E
-0117	Apr 12	10:18:09	11755	300	-26181	49	P	-t	0.6722	1.6587	0.5912	336.5	172.9	-	7S	105W
-0117	Oct 06	02:59:17	11749	300	-26175	54	P	-a	-0.5978	1.7431	0.7790	294.3	170.9	-	3N	2E
-0116	Mar 31	10:36:01	11744	300	-26169	59	T-	pp	-0.0741	2.7587	1.6861	373.0	234.4	104.6	3S	109W
-0116	Sep 24	18:28:19	11739	300	-26163	64	T+	pp	0.0875	2.6897	1.7051	328.0	214.2	98.0	0S	130E
-0115	Mar 20	14:10:50	11733	299	-26157	69	P	h-	-0.8110	1.3864	0.3536	302.7	133.6	-	1N	162W
-0115	Sep 14	05:28:30	11728	299	-26151	74	P	t-	0.8384	1.3376	0.3021	297.2	123.6	-	4S	35W
-0114	Feb 08	15:13:00	11723	299	-26146	41	N	-a	1.1472	0.7379	-0.2319	216.8	-	-	17N	174W
-0114	Mar 10	00:50:56	11722	299	-26145	79	N	a-	-1.4835	0.1265	-0.8548	97.3	-	-	4N	39E
-0114	Aug 04	17:01:23	11718	299	-26140	46	N	-t	-1.3039	0.5052	-0.5735	212.2	-	-	20S	155E
-0113	Jan 29	07:18:07	11713	299	-26134	51	T	-a	0.4646	1.9889	1.0218	305.7	188.2	21.9	19N	56W
-0113	Jul 24	18:04:07	11707	299	-26128	56	P	-t	-0.5467	1.8819	0.8283	342.5	194.0	-	21S	139E
-0112	Jan 18	21:29:36	11702	299	-26122	61	T-	p-	-0.2291	2.4415	1.4336	333.2	212.5	87.5	21N	90E
-0112	Jul 13	01:18:06	11697	298	-26116	66	T+	p-	0.2355	2.4248	1.4269	336.9	215.7	88.5	22S	29E
-0111	Jan 07	05:31:22	11691	298	-26110	71	P	t-	-0.9728	1.1071	0.0396	285.3	47.4	-	22N	32W
-0111	Jun 03	08:34:41	11687	298	-26105	38	Ne	-a	-1.5255	0.0286	-0.9114	45.0	-	-	24S	82W
-0111	Jul 02	15:21:54	11686	298	-26104	76	P	a-	0.9641	1.0644	0.1130	251.0	72.8	-	23S	178E
-0111	Nov 27	11:03:15	11681	298	-26099	43	N	-t	1.3737	0.3900	-0.7140	189.1	-	-	22N	119W
-0110	May 24	01:35:54	11676	298	-26093	48	P	-a	-0.8234	1.3246	0.3694	273.8	127.7	-	21S	23E
-0110	Nov 16	12:46:07	11671	298	-26087	53	P	-t	0.6593	1.6797	0.6174	326.1	170.2	-	19N	146W
-0109	May 13	14:47:22	11665	298	-26081	58	T-	pp	-0.0751	2.7225	1.7177	344.5	223.1	101.8	18S	175W
-0109	Nov 05	21:45:27	11660	297	-26075	63	T-	p-	-0.0617	2.7467	1.7430	333.4	216.2	99.0	15N	79E
-0108	May 01	20:52:07	11655	297	-26069	68	P	t-	0.7197	1.5659	0.5096	327.3	161.6	-	14S	94E
-0108	Oct 25	12:18:50	11649	297	-26063	73	P	a-	-0.7289	1.5052	0.5357	282.3	147.6	-	11N	139W
-0107	Mar 22	06:19:54	11645	297	-26058	40	N	-t	-1.3930	0.3356	-0.7311	172.9	-	-	1S	45W
-0107	Apr 20	21:38:00	11644	297	-26057	78	N	t-	1.4756	0.1867	-0.8851	132.4	-	-	9S	84E
-0107	Sep 15	17:12:53	11640	297	-26052	45	N	-a	1.2783	0.5104	-0.4854	190.6	-	-	3S	149E
-0107	Oct 15	03:59:32	11639	297	-26051	83	N	a-	-1.4038	0.2724	-0.7079	138.7	-	-	6N	14W

-0106 Mar 11	11:42:41	11634	297	-26046	50	P	-t	-0.6060	1.7558	0.7366	319.6	178.5	-	4N	124W
-0106 Sep 05	02:24:26	11629	297	-26040	55	P	-h	0.6016	1.7787	0.7299	331.4	182.2	-	8S	12E
-0105 Mar 01	00:03:26	11624	296	-26034	60	T+	p-	0.1445	2.5786	1.6067	323.7	211.9	95.0	9N	51E
-0105 Aug 25	04:38:51	11618	296	-26028	65	T-	pp	-0.1252	2.6700	1.5872	374.6	233.6	101.6	12S	21W
-0104 Feb 18	16:11:22	11613	296	-26022	70	P	a-	0.8358	1.3037	0.3448	268.2	121.9	-	14N	170E
-0104 Aug 13	04:50:51	11608	296	-26016	75	P	t-	-0.8508	1.3313	0.2632	311.6	120.8	-	17S	23W
-0103 Jan 08	19:17:29	11603	296	-26011	42	N	a-	-1.1839	0.6989	-0.3273	225.0	-	-	22N	122E
-0103 Feb 07	07:26:45	11602	296	-26010	80	N	a-	1.5542	0.0017	-0.9891	11.5	-	-	18N	59W
-0103 Jul 04	00:10:42	11598	296	-26005	47	N	a-	1.1140	0.8045	-0.1766	232.6	-	-	22S	45E
-0103 Aug 02	10:16:00	11597	296	-26004	85	Nb	a-	-1.5381	0.0434	-0.9717	60.2	-	-	20S	105W
-0103 Dec 29	01:05:51	11593	296	-25999	52	P	-t	-0.5261	1.9348	0.8512	348.3	196.0	-	23N	33E
-0102 Jun 23	15:35:11	11587	295	-25993	57	T	-p	0.3390	2.2076	1.2638	310.6	200.3	71.0	23S	174E
-0102 Dec 18	00:46:18	11582	295	-25987	62	T+	pp	0.1531	2.6306	1.5245	377.6	232.4	98.4	24N	37E
-0101 Jun 13	08:49:26	11577	295	-25981	67	T	a-	-0.4017	2.0949	1.1465	309.5	196.2	55.2	24S	86W
-0101 Dec 07	01:13:37	11571	295	-25975	72	P	h-	0.8229	1.3864	0.3106	311.5	128.2	-	23N	28E
-0100 May 03	12:49:15	11567	295	-25970	39	N	-h	1.4649	0.1810	-0.8407	123.1	-	-	14S	145W
-0100 Jun 01	23:11:21	11566	295	-25969	77	N	h-	-1.1956	0.6599	-0.3316	217.1	-	-	23S	58E
-0100 Oct 26	20:11:52	11562	295	-25964	44	N	a-	-1.3004	0.4663	-0.5226	179.7	-	-	11N	103E
-0100 Nov 25	08:27:40	11561	295	-25963	82	N	a-	1.4507	0.2054	-0.8128	126.2	-	-	22N	82W

1ST CENTURY BCE

In the 1st century BCE the total number of lunar eclipses was 253 lunar eclipses:
4 penumbral lunar eclipses, 98 partial lunar eclipses, 61 total lunar eclipses
60 central total lunar eclipses, 11 non-central total lunar eclipses).

-0099	Oct 16	11:35:54	11551	294	-25952	54	P	-a	-0.6136	1.7152	0.7486	293.1	168.4	-	7N	129W
-0098	Apr 11	17:18:35	11546	294	-25946	59	T-	pp	-0.0018	2.8892	1.8208	372.3	234.8	106.1	7S	149E
-0098	Oct 06	02:49:41	11540	294	-25940	64	T+	pp	0.0662	2.7314	1.7416	329.5	214.9	98.8	4N	3E
-0097	Mar 31	21:24:32	11535	294	-25934	69	P	h-	-0.7489	1.4973	0.4708	309.0	150.9	-	4S	88E
-0097	Sep 25	13:19:52	11530	294	-25928	74	P	t-	0.8109	1.3912	0.3493	302.7	132.3	-	0N	154W
-0096	Feb 19	23:30:03	11526	294	-25923	41	N	-a	1.1743	0.6858	-0.2795	209.6	-	-	13N	60E
-0096	Mar 20	08:38:11	11525	294	-25922	79	N	a-	-1.4329	0.2165	-0.7591	125.7	-	-	0S	80W
-0096	Aug 14	23:50:34	11520	293	-25917	46	N	-t	-1.3670	0.3912	-0.6908	188.9	-	-	17S	52E
-0096	Sep 13	16:41:49	11519	293	-25916	84	Nb	t-	1.5683	0.0230	-1.0614	47.1	-	-	4S	156E
-0095	Feb 08	15:45:37	11515	293	-25911	51	P	-a	0.4878	1.9455	0.9800	304.3	186.0	-	16N	176E
-0095	Aug 04	00:59:01	11510	293	-25905	56	P	-t	-0.6133	1.7597	0.7061	335.5	182.5	-	19S	34E
-0094	Jan 29	05:51:16	11504	293	-25899	61	T-	p-	-0.2130	2.4712	1.4631	334.7	213.9	89.6	19N	36W
-0094	Jul 24	08:33:59	11499	293	-25893	66	T+	p-	0.1668	2.5502	1.5535	337.5	218.0	95.5	21S	80W
-0093	Jan 18	13:36:11	11494	293	-25887	71	P	t-	-0.9620	1.1272	0.0593	288.0	58.0	-	20N	153W
-0093	Jul 13	22:52:17	11489	293	-25881	76	P	a-	0.8949	1.1915	0.2401	261.4	104.1	-	22S	65E
-0093	Dec 08	19:06:44	11484	292	-25876	43	N	-t	1.3768	0.3837	-0.7192	187.4	-	-	24N	120E
-0092	Jun 03	08:55:34	11479	292	-25870	48	P	-a	-0.8992	1.1866	0.2292	264.0	102.9	-	23S	88W
-0092	Nov 26	21:08:18	11474	292	-25864	53	P	-h	0.6595	1.6781	0.6182	324.9	169.8	-	22N	89E
-0091	May 23	21:44:14	11468	292	-25858	58	T-	pp	-0.1543	2.5786	1.5711	344.7	221.8	97.5	20S	80E
-0091	Nov 16	06:26:32	11463	292	-25852	63	T-	p-	-0.0586	2.7516	1.7493	332.5	215.7	98.9	18N	52W
-0090	May 13	03:24:24	11458	292	-25846	68	P	t-	0.6386	1.7150	0.6578	337.2	179.6	-	17S	5W
-0090	Nov 05	21:05:46	11453	292	-25840	73	P	a-	-0.7220	1.5184	0.5479	283.0	148.9	-	15N	88E
-0089	Apr 02	13:14:51	11448	291	-25835	40	N	-t	-1.4521	0.2245	-0.8369	142.4	-	-	5S	150W
-0089	May 02	04:07:21	11447	291	-25834	78	N	t-	1.3964	0.3306	-0.7384	173.7	-	-	13S	15W
-0089	Sep 27	01:21:48	11443	291	-25829	45	N	-a	1.3078	0.4592	-0.5425	182.5	-	-	1N	25E
-0089	Oct 26	12:36:31	11442	291	-25828	83	N	a-	-1.3963	0.2881	-0.6961	142.9	-	-	10N	144W
-0088	Mar 21	19:12:34	11438	291	-25823	50	P	-t	-0.6546	1.6632	0.6505	313.1	169.7	-	0N	121E
-0088	Sep 15	09:59:21	11433	291	-25817	55	P	-h	0.6411	1.7095	0.6543	329.2	175.2	-	4S	103W
-0087	Mar 11	08:02:09	11427	291	-25811	60	T+	p-	0.1024	2.6533	1.6866	323.3	212.7	97.4	5N	70W
-0087	Sep 04	11:46:21	11422	291	-25805	65	T-	pp	-0.0757	2.7630	1.6759	376.2	234.8	104.2	9S	129W
-0086	Mar 01	00:23:11	11417	291	-25799	70	P	a-	0.8012	1.3658	0.4094	272.6	131.6	-	10N	46E
-0086	Aug 24	11:56:42	11412	290	-25793	75	P	t-	-0.7939	1.4362	0.3669	319.3	140.1	-	13S	131W
-0085	Jan 20	03:37:57	11407	290	-25788	42	N	-a	-1.2002	0.6693	-0.3576	221.6	-	-	20N	3W
-0085	Feb 18	15:37:05	11406	290	-25787	80	N	a-	1.5311	0.0439	-0.9466	58.1	-	-	14N	178E
-0085	Jul 15	07:29:30	11402	290	-25782	47	N	-a	1.1782	0.6859	-0.2938	216.6	-	-	21S	65W
-0085	Aug 13	17:39:51	11401	290	-25781	85	N	a-	-1.4779	0.1536	-0.8609	111.7	-	-	17S	144E
-0084	Jan 09	09:08:34	11397	290	-25776	52	P	-t	-0.5381	1.9129	0.8290	348.0	194.6	-	22N	87W
-0084	Jul 03	23:04:15	11392	290	-25770	57	T	-a	0.4098	2.0778	1.1337	306.7	194.4	52.6	23S	61E
-0084	Dec 28	08:45:15	11386	290	-25764	62	T+	pp	0.1453	2.6439	1.5396	377.5	232.6	99.1	24N	82W
-0083	Jun 23	16:11:27	11381	290	-25758	67	T	p-	-0.3274	2.2325	1.2815	314.1	202.4	73.3	24S	164E

-0083	Dec 17	09:30:21	11376	289	-25752	72	P	a-	0.8180	1.3937	0.3212	311.0	129.8	-	24N	95W
-0082	May 14	19:39:46	11372	289	-25747	39	Ne	-t	1.5464	0.0327	-0.9913	53.2	-	-	17S	111E
-0082	Jun 13	06:12:23	11371	289	-25746	77	N	t-	-1.1225	0.7961	-0.1993	236.2	-	-	24S	47W
-0082	Nov 07	04:54:28	11366	289	-25741	44	N	-a	-1.3033	0.4608	-0.5275	178.3	-	-	14N	29W
-0082	Dec 06	17:07:43	11366	289	-25740	82	N	a-	1.4459	0.2127	-0.8027	127.9	-	-	24N	149E
-0081	May 03	23:25:51	11361	289	-25735	49	P	-t	0.8327	1.3637	0.2972	316.7	128.8	-	14S	55E
-0081	Oct 27	20:18:50	11356	289	-25729	54	P	-a	-0.6241	1.6972	0.7283	292.5	166.7	-	12N	100E
-0080	Apr 21	23:57:19	11351	289	-25723	59	T+	pp	0.0742	2.7542	1.6900	370.8	233.9	104.6	11S	47E
-0080	Oct 16	11:16:07	11346	289	-25717	64	T+	pp	0.0498	2.7639	1.7691	330.9	215.4	99.2	8N	125W
-0079	Apr 11	04:34:31	11340	288	-25711	69	P	a-	-0.6826	1.6158	0.5955	314.9	165.8	-	8S	21W
-0079	Oct 05	21:17:05	11335	288	-25705	74	P	t-	0.7889	1.4348	0.3867	307.2	138.9	-	5N	85E
-0078	Mar 02	07:38:57	11331	288	-25700	41	N	-a	1.2084	0.6210	-0.3399	200.3	-	-	9N	63W
-0078	Mar 31	16:18:20	11330	288	-25699	79	N	a-	-1.3759	0.3184	-0.6519	150.5	-	-	4S	163E
-0078	Aug 26	06:48:50	11326	288	-25694	46	N	-t	-1.4224	0.2912	-0.7941	164.6	-	-	13S	54W
-0078	Sep 25	00:09:01	11325	288	-25693	84	N	t-	1.5358	0.0851	-1.0042	90.3	-	-	1N	43E
-0077	Feb 20	00:04:13	11320	288	-25688	51	P	-a	0.5182	1.8889	0.9250	302.4	182.7	-	13N	51E
-0077	Aug 15	08:04:02	11315	288	-25682	56	P	-t	-0.6721	1.6519	0.5981	328.5	170.5	-	16S	73W
-0076	Feb 09	14:03:14	11310	288	-25676	61	T-	pp	-0.1895	2.5144	1.5061	336.4	215.6	92.3	15N	159W
-0076	Aug 03	15:58:51	11305	287	-25670	66	T+	pp	0.1047	2.6637	1.6678	337.5	219.1	99.3	18S	168E
-0075	Jan 28	21:31:58	11300	287	-25664	71	P	t-	-0.9444	1.1594	0.0915	291.9	71.9	-	18N	88E
-0075	Jul 24	06:27:39	11295	287	-25658	76	P	a-	0.8293	1.3120	0.3602	270.1	125.1	-	20S	49W
-0075	Dec 19	03:09:26	11290	287	-25653	43	N	-t	1.3808	0.3754	-0.7254	185.3	-	-	25N	0E
-0074	Jun 14	16:13:08	11285	287	-25647	48	P	-a	-0.9762	1.0467	0.0864	252.6	64.6	-	24S	162E
-0074	Jul 13	23:31:17	11284	287	-25646	86	Nb	a-	1.5360	0.0135	-0.9346	31.1	-	-	21S	54E
-0074	Dec 08	05:31:39	11280	287	-25641	53	P	-h	0.6595	1.6767	0.6198	323.6	169.5	-	23N	37W
-0073	Jun 04	04:37:40	11275	287	-25635	58	T-	-p	-0.2354	2.4316	1.4207	344.0	218.9	89.3	22S	24W
-0073	Nov 27	15:11:23	11270	286	-25629	63	T-	p-	-0.0578	2.7520	1.7517	331.5	215.2	98.8	21N	177E
-0072	May 23	09:51:57	11264	286	-25623	68	P	t-	0.5542	1.8706	0.8121	346.2	194.7	-	20S	103W
-0072	Nov 16	05:57:01	11259	286	-25617	73	P	a-	-0.7186	1.5249	0.5536	283.3	149.5	-	18N	45W
-0071	Apr 12	20:03:43	11255	286	-25612	40	Ne	-t	-1.5162	0.1044	-0.9518	97.7	-	-	9S	106E
-0071	May 12	10:32:13	11254	286	-25611	78	N	t-	1.3127	0.4830	-0.5835	206.6	-	-	16S	113W
-0071	Oct 07	09:37:28	11250	286	-25606	45	N	-a	1.3310	0.4195	-0.5879	175.8	-	-	6N	100W
-0071	Nov 05	21:18:39	11249	286	-25605	83	N	a-	-1.3938	0.2945	-0.6934	144.8	-	-	14N	84E
-0070	Apr 02	02:35:14	11245	286	-25600	50	P	-t	-0.7099	1.5586	0.5522	305.5	158.3	-	4S	9E
-0070	Sep 26	17:42:18	11239	286	-25594	55	P	-h	0.6729	1.6542	0.5928	327.5	168.9	-	1N	139E
-0069	Mar 22	15:54:18	11234	285	-25588	60	T+	pp	0.0543	2.7390	1.7771	322.7	213.2	99.1	1N	170E
-0069	Sep 15	19:02:11	11229	285	-25582	65	T-	pp	-0.0333	2.8429	1.7517	377.3	235.4	105.3	4S	120E
-0068	Mar 11	08:28:41	11224	285	-25576	70	P	a-	0.7617	1.4373	0.4831	277.3	141.5	-	5N	77W
-0068	Sep 03	19:12:01	11219	285	-25570	75	P	t-	-0.7441	1.5282	0.4578	325.2	154.0	-	9S	119E
-0067	Jan 30	11:51:46	11215	285	-25565	42	N	-a	-1.2211	0.6313	-0.3961	216.7	-	-	17N	127W

-0067	Feb 28	23:39:39	11214	285	-25564	80	N	a-	1.5027	0.0959	-0.8943	85.6	-	-	10N	56E
-0067	Jul 25	14:54:14	11209	285	-25559	47	N	-a	1.2381	0.5755	-0.4033	199.9	-	-	19S	176W
-0067	Aug 24	01:12:18	11209	285	-25558	85	N	a-	-1.4237	0.2529	-0.7612	141.5	-	-	14S	29E
-0066	Jan 19	17:04:51	11204	285	-25553	52	P	-t	-0.5546	1.8826	0.7990	347.3	192.4	-	20N	154E
-0066	Jul 15	06:38:04	11199	284	-25547	57	T	-a	0.4766	1.9557	1.0108	302.3	187.6	15.5	22S	53W
-0065	Jan 08	16:37:55	11194	284	-25541	62	T+	pp	0.1326	2.6660	1.5641	377.2	233.0	100.2	23N	160E
-0065	Jul 04	23:37:32	11189	284	-25535	67	T-	p-	-0.2572	2.3629	1.4088	317.9	207.0	84.5	24S	52E
-0065	Dec 28	17:44:16	11184	284	-25529	72	P	a-	0.8107	1.4050	0.3366	310.7	132.2	-	24N	142E
-0064	Jun 23	13:14:09	11179	284	-25523	77	N	t-	-1.0507	0.9300	-0.0697	252.9	-	-	25S	153W
-0064	Nov 17	13:40:23	11174	284	-25518	44	N	-a	-1.3039	0.4592	-0.5281	177.6	-	-	18N	161W
-0064	Dec 17	01:46:59	11173	284	-25517	82	N	a-	1.4403	0.2213	-0.7906	129.9	-	-	25N	20E
-0063	May 14	05:51:26	11169	284	-25512	49	P	-t	0.9182	1.2067	0.1403	303.5	90.6	-	17S	43W
-0063	Nov 07	05:06:46	11164	283	-25506	54	P	-a	-0.6306	1.6861	0.7154	292.1	165.6	-	15N	33W
-0062	May 03	06:29:17	11159	283	-25500	59	T+	pp	0.1563	2.6017	1.5413	368.2	231.3	99.5	15S	52W
-0062	Oct 27	19:49:30	11154	283	-25494	64	T+	pp	0.0398	2.7847	1.7853	332.2	215.9	99.4	12N	106E
-0061	Apr 22	11:38:36	11149	283	-25488	69	P	a-	-0.6103	1.7455	0.7309	320.6	179.1	-	12S	129W
-0061	Oct 17	05:21:06	11144	283	-25482	74	P	t-	0.7732	1.4665	0.4126	310.9	143.3	-	9N	37W
-0060	Mar 12	15:40:18	11139	283	-25477	41	N	-a	1.2491	0.5444	-0.4124	188.5	-	-	5N	175E
-0060	Apr 10	23:52:54	11138	283	-25476	79	N	a-	-1.3137	0.4300	-0.5353	172.5	-	-	8S	48E
-0060	Sep 05	13:56:27	11134	283	-25471	46	N	-t	-1.4699	0.2055	-0.8830	139.4	-	-	9S	162W
-0060	Oct 05	07:44:37	11133	283	-25470	84	N	t-	1.5101	0.1345	-0.9593	113.2	-	-	5N	73W
-0059	Mar 02	08:14:41	11129	282	-25465	51	P	-a	0.5552	1.8202	0.8580	299.8	178.3	-	9N	73W
-0059	Aug 25	15:17:49	11124	282	-25459	56	P	-t	-0.7245	1.5561	0.5018	321.7	158.2	-	13S	177E
-0058	Feb 19	22:06:48	11119	282	-25453	61	T-	pp	-0.1599	2.5688	1.5605	338.1	217.4	95.2	12N	79E
-0058	Aug 14	23:31:58	11114	282	-25447	66	T+	pp	0.0485	2.7666	1.7711	337.0	219.3	101.0	15S	54E
-0057	Feb 09	05:18:43	11109	282	-25441	71	P	t-	-0.9201	1.2038	0.1363	296.7	87.4	-	15N	29W
-0057	Aug 04	14:10:12	11104	282	-25435	76	P	a-	0.7692	1.4228	0.4700	277.3	140.4	-	18S	166W
-0057	Dec 30	11:10:25	11099	282	-25430	43	N	-t	1.3866	0.3633	-0.7347	182.1	-	-	25N	120W
-0056	Jun 24	23:31:30	11094	281	-25424	48	N	-a	-1.0518	0.9098	-0.0538	239.7	-	-	25S	53E
-0056	Jul 24	07:06:33	11093	281	-25423	86	N	a-	1.4762	0.1249	-0.8265	94.0	-	-	19S	60W
-0056	Dec 18	13:55:20	11089	281	-25418	53	P	-h	0.6599	1.6739	0.6207	322.2	169.1	-	24N	162W
-0055	Jun 14	11:29:39	11084	281	-25412	58	T	-a	-0.3167	2.2843	1.2695	342.4	214.4	75.8	24S	127W
-0055	Dec 07	23:56:43	11079	281	-25406	63	T-	p-	-0.0572	2.7519	1.7541	330.4	214.8	98.7	23N	46E
-0054	Jun 03	16:16:57	11074	281	-25400	68	P	t-	0.4681	2.0294	0.9692	354.0	207.2	-	22S	160E
-0054	Nov 27	14:49:56	11069	281	-25394	73	P	a-	-0.7167	1.5285	0.5570	283.5	149.8	-	20N	178W
-0053	May 23	16:56:22	11064	281	-25388	78	N	t-	1.2275	0.6382	-0.4262	233.6	-	-	19S	150E
-0053	Oct 18	17:58:35	11059	280	-25383	45	N	-a	1.3492	0.3888	-0.6239	170.4	-	-	10N	133E
-0053	Nov 17	06:02:38	11058	280	-25382	83	N	a-	-1.3933	0.2970	-0.6941	145.7	-	-	17N	47W
-0052	Apr 12	09:53:22	11054	280	-25377	50	P	-t	-0.7698	1.4458	0.4454	296.7	144.1	-	8S	102W
-0052	Oct 07	01:32:19	11049	280	-25371	55	P	-h	0.6983	1.6107	0.5435	326.2	163.5	-	5N	20E

-0051	Apr 01	23:38:36	11044	280	-25365	60	T-	pp	-0.0008	2.8350	1.8776	321.9	213.2	99.7	4S	52E
-0051	Sep 26	02:27:29	11039	280	-25359	65	T+	pp	0.0013	2.9035	1.8085	378.0	235.5	105.5	0N	7E
-0050	Mar 22	16:24:25	11034	280	-25353	70	P	a-	0.7142	1.5235	0.5713	282.7	151.9	-	1N	162E
-0050	Sep 15	02:39:07	11029	280	-25347	75	P	t-	-0.7031	1.6039	0.5326	329.5	163.8	-	5S	5E
-0049	Feb 10	19:54:42	11025	279	-25342	42	N	-a	-1.2499	0.5786	-0.4491	209.2	-	-	14N	111E
-0049	Mar 12	07:30:49	11024	279	-25341	80	N	a-	1.4660	0.1632	-0.8269	111.4	-	-	6N	63W
-0049	Aug 05	22:27:46	11020	279	-25336	47	N	-a	1.2915	0.4774	-0.5011	183.3	-	-	17S	70E
-0049	Sep 04	08:56:07	11019	279	-25335	85	N	a-	-1.3776	0.3374	-0.6766	161.6	-	-	10S	88W
-0048	Jan 31	00:52:59	11014	279	-25330	52	P	-t	-0.5768	1.8413	0.7585	345.9	189.2	-	18N	37E
-0048	Jul 25	14:16:16	11009	279	-25324	57	P	-a	0.5398	1.8405	0.8942	297.7	180.0	-	20S	168W
-0047	Jan 19	00:26:38	11004	279	-25318	62	T+	pp	0.1166	2.6939	1.5952	376.9	233.5	101.4	21N	43E
-0047	Jul 15	07:04:59	10999	279	-25312	67	T-	p-	-0.1888	2.4903	1.5323	321.0	210.5	92.1	23S	60W
-0046	Jan 08	01:55:39	10994	279	-25306	72	P	a-	0.8002	1.4218	0.3581	310.8	135.6	-	23N	20E
-0046	Jul 04	20:15:28	10989	278	-25300	77	P	t-	-0.9791	1.0639	0.0593	267.9	56.0	-	24S	102E
-0046	Nov 28	22:29:45	10985	278	-25295	44	N	-a	-1.3025	0.4610	-0.5248	177.6	-	-	20N	67E
-0046	Dec 28	10:25:23	10984	278	-25294	82	N	a-	1.4334	0.2320	-0.7759	132.4	-	-	25N	109W
-0045	May 25	12:14:15	10980	278	-25289	49	Nx	-t	1.0056	1.0466	-0.0201	287.9	-	-	20S	139W
-0045	Nov 18	13:57:21	10975	278	-25283	54	P	-a	-0.6350	1.6788	0.7066	292.0	164.9	-	18N	166W
-0044	May 13	13:00:27	10970	278	-25277	59	T+	pp	0.2396	2.4471	1.3901	364.6	227.0	89.9	18S	151W
-0044	Nov 07	04:26:11	10965	278	-25271	64	T+	pp	0.0331	2.7991	1.7955	333.5	216.4	99.6	16N	24W
-0043	May 02	18:39:43	10960	278	-25265	69	P	a-	-0.5345	1.8820	0.8727	325.5	190.3	-	15S	124E
-0043	Oct 27	13:29:59	10955	277	-25259	74	P	t-	0.7621	1.4895	0.4303	313.8	146.3	-	13N	160W
-0042	Mar 23	23:34:26	10951	277	-25254	41	N	-a	1.2958	0.4566	-0.4962	173.8	-	-	1N	55E
-0042	Apr 22	07:22:44	10950	277	-25253	79	N	a-	-1.2472	0.5499	-0.4110	192.1	-	-	12S	66W
-0042	Sep 16	21:13:48	10945	277	-25248	46	N	-t	-1.5099	0.1338	-0.9577	113.3	-	-	5S	87E
-0042	Oct 16	15:27:23	10945	277	-25247	84	N	t-	1.4901	0.1732	-0.9244	128.3	-	-	9N	170E
-0041	Mar 13	16:15:46	10940	277	-25242	51	P	-a	0.5998	1.7377	0.7768	296.5	172.3	-	5N	165E
-0041	Sep 05	22:43:14	10935	277	-25236	56	P	-t	-0.7681	1.4762	0.4216	315.4	146.4	-	9S	65E
-0040	Mar 02	06:00:18	10930	277	-25230	61	T-	pp	-0.1224	2.6376	1.6291	340.0	219.2	98.1	8N	41W
-0040	Aug 25	07:14:05	10925	277	-25224	66	T-	pp	-0.0011	2.8536	1.8583	336.0	218.9	101.2	12S	63W
-0039	Feb 19	12:55:09	10920	276	-25218	71	P	t-	-0.8880	1.2624	0.1955	302.6	104.1	-	11N	144W
-0039	Aug 14	21:59:58	10915	276	-25212	76	P	a-	0.7147	1.5236	0.5693	283.3	151.9	-	15S	76E
-0038	Jan 09	19:05:47	10911	276	-25207	43	N	-t	1.3969	0.3425	-0.7520	176.8	-	-	24N	122E
-0038	Jul 06	06:50:57	10906	276	-25201	48	N	-a	-1.1256	0.7764	-0.1914	225.4	-	-	24S	57W
-0038	Aug 04	14:47:32	10905	276	-25200	86	N	a-	1.4213	0.2277	-0.7277	126.0	-	-	17S	176W
-0038	Dec 29	22:16:50	10901	276	-25195	53	P	-h	0.6630	1.6660	0.6172	320.5	168.3	-	24N	73E
-0037	Jun 25	18:21:21	10896	276	-25189	58	T	-h	-0.3971	2.1391	1.1197	339.8	208.1	53.2	24S	129E
-0037	Dec 19	08:41:38	10891	276	-25183	63	T-	p-	-0.0555	2.7534	1.7586	329.4	214.4	98.6	24N	85W
-0036	Jun 13	22:41:02	10886	275	-25177	68	T	t-	0.3815	2.1895	1.1272	360.6	217.1	56.7	23S	64E
-0036	Dec 07	23:44:30	10881	275	-25171	73	P	a-	-0.7163	1.5293	0.5579	283.5	149.9	-	22N	48E

-0035	Jun 02	23:17:53	10876	275	-25165	78	N	t-	1.1392	0.7992	-0.2634	256.8	-	-	21S	54E
-0035	Oct 29	02:25:52	10872	275	-25160	45	N	-a	1.3618	0.3683	-0.6495	166.8	-	-	14N	5E
-0035	Nov 27	14:49:49	10871	275	-25159	83	N	a-	-1.3960	0.2935	-0.7004	145.3	-	-	20N	179W
-0034	Apr 23	17:06:36	10867	275	-25154	50	P	-h	-0.8346	1.3241	0.3292	286.6	125.7	-	12S	148E
-0034	Oct 18	09:29:05	10862	275	-25148	55	P	-h	0.7173	1.5786	0.5060	325.5	159.1	-	10N	100W
-0033	Apr 13	07:17:54	10857	275	-25142	60	T-	pp	-0.0606	2.7232	1.7698	320.7	212.6	99.0	8S	64W
-0033	Oct 07	10:01:37	10852	274	-25136	65	T+	pp	0.0287	2.8550	1.7565	378.4	235.4	105.1	5N	108W
-0032	Apr 02	00:14:27	10847	274	-25130	70	P	a-	0.6623	1.6179	0.6673	288.2	161.9	-	3S	43E
-0032	Sep 25	10:14:46	10842	274	-25124	75	P	t-	-0.6684	1.6680	0.5958	332.8	171.1	-	1S	110W
-0031	Feb 21	03:49:31	10838	274	-25119	42	N	-a	-1.2843	0.5155	-0.5123	199.3	-	-	10N	8W
-0031	Mar 22	15:14:16	10837	274	-25118	80	N	a-	1.4240	0.2403	-0.7499	134.6	-	-	2N	179E
-0031	Aug 16	06:09:06	10833	274	-25113	47	N	-a	1.3391	0.3901	-0.5883	166.6	-	-	14S	47W
-0031	Sep 14	16:49:13	10832	274	-25112	85	N	a-	-1.3384	0.4093	-0.6046	176.3	-	-	6S	152E
-0030	Feb 10	08:30:54	10828	274	-25107	52	P	-t	-0.6067	1.7859	0.7043	343.6	184.4	-	15N	78W
-0030	Aug 05	22:01:27	10823	274	-25101	57	P	-a	0.5971	1.7363	0.7880	293.1	171.9	-	17S	75E
-0029	Jan 30	08:06:40	10818	273	-25095	62	T+	pp	0.0935	2.7344	1.6394	376.5	234.0	102.9	19N	72W
-0029	Jul 26	14:37:50	10813	273	-25089	67	T-	pp	-0.1255	2.6086	1.6463	323.5	212.9	96.7	21S	174W
-0028	Jan 19	10:00:50	10808	273	-25083	72	P	a-	0.7843	1.4485	0.3901	311.4	140.4	-	22N	101W
-0028	Jul 15	03:20:21	10803	273	-25077	77	P	t-	-0.9113	1.1909	0.1810	280.9	96.5	-	23S	5W
-0028	Dec 09	07:19:20	10798	273	-25072	44	N	-a	-1.3013	0.4622	-0.5218	177.4	-	-	22N	65W
-0027	Jan 07	18:59:41	10798	273	-25071	82	N	a-	1.4229	0.2490	-0.7545	136.4	-	-	24N	123E
-0027	Jun 04	18:33:29	10793	273	-25066	49	N	-t	1.0948	0.8832	-0.1843	269.2	-	-	21S	125E
-0027	Nov 28	22:50:21	10788	273	-25060	54	P	-a	-0.6373	1.6752	0.7020	292.1	164.5	-	21N	61E
-0026	May 24	19:28:35	10783	272	-25054	59	T	pt	0.3255	2.2879	1.2339	359.8	220.6	73.7	20S	111E
-0026	Nov 18	13:06:19	10778	272	-25048	64	T+	pp	0.0301	2.8065	1.7992	334.8	216.9	99.7	19N	155W
-0025	May 14	01:38:16	10774	272	-25042	69	T	a-	-0.4556	2.0242	1.0198	329.7	199.7	22.0	18S	18E
-0025	Nov 07	21:44:23	10769	272	-25036	74	P	t-	0.7567	1.5017	0.4379	315.9	147.8	-	17N	75E
-0024	Apr 03	07:21:41	10764	272	-25031	41	N	-a	1.3484	0.3583	-0.5910	155.1	-	-	3S	64W
-0024	May 02	14:48:20	10764	272	-25030	79	N	a-	-1.1764	0.6777	-0.2792	209.9	-	-	16S	179W
-0024	Sep 27	04:39:59	10759	272	-25025	46	N	-t	-1.5426	0.0751	-1.0191	85.3	-	-	0S	26W
-0024	Oct 26	23:16:53	10759	272	-25024	84	N	t-	1.4755	0.2017	-0.8994	138.3	-	-	13N	52E
-0023	Mar 24	00:09:07	10754	272	-25019	51	P	-a	0.6504	1.6443	0.6846	292.2	164.6	-	0N	45E
-0023	Sep 16	06:18:35	10750	272	-25013	56	P	-t	-0.8045	1.4097	0.3547	309.7	135.3	-	4S	51W
-0022	Mar 13	13:43:25	10745	271	-25007	61	T-	pp	-0.0773	2.7204	1.7119	341.7	220.9	100.6	4N	158W
-0022	Sep 05	15:05:56	10740	271	-25001	66	T-	pp	-0.0434	2.7761	1.7807	334.9	218.0	100.5	8S	178E
-0021	Mar 02	20:21:59	10735	271	-24995	71	P	t-	-0.8487	1.3340	0.2680	309.3	120.9	-	7N	103E
-0021	Aug 26	05:57:02	10730	271	-24989	76	P	a-	0.6662	1.6135	0.6575	288.1	160.8	-	11S	45W
-0020	Jan 21	02:56:31	10725	271	-24984	43	N	-t	1.4112	0.3143	-0.7761	169.3	-	-	22N	5E
-0020	Feb 19	20:49:04	10725	271	-24983	81	Nb	t-	-1.5751	0.0140	-1.0772	37.0	-	-	11N	96E
-0020	Jul 16	14:13:47	10721	271	-24978	48	N	-a	-1.1958	0.6500	-0.3223	209.7	-	-	23S	168W

-0020	Aug 14	22:34:24	10720	271	-24977	86	N	a-	1.3715	0.3212	-0.6385	148.8	-	-	14S	66E
-0019	Jan 09	06:35:30	10716	271	-24972	53	P	-h	0.6691	1.6523	0.6085	318.3	166.8	-	23N	51W
-0019	Jul 06	01:13:23	10711	270	-24966	58	P	-h	-0.4761	1.9966	0.9724	336.3	200.0	-	24S	26E
-0019	Dec 29	17:24:21	10706	270	-24960	63	T-	p-	-0.0516	2.7590	1.7676	328.4	214.1	98.7	23N	145E
-0018	Jun 25	05:06:28	10701	270	-24954	68	T	pp	0.2961	2.3473	1.2824	365.9	224.6	80.1	23S	33W
-0018	Dec 19	08:36:32	10696	270	-24948	73	P	a-	-0.7138	1.5335	0.5628	283.7	150.4	-	23N	84W
-0017	Jun 14	05:42:44	10691	270	-24942	78	N	t-	1.0526	0.9575	-0.1037	276.0	-	-	22S	42W
-0017	Nov 09	10:56:53	10687	270	-24937	45	N	-a	1.3711	0.3536	-0.6688	164.3	-	-	18N	123W
-0017	Dec 08	23:36:11	10686	270	-24936	83	N	a-	-1.3984	0.2902	-0.7058	144.9	-	-	21N	49E
-0016	May 04	00:16:57	10682	270	-24931	50	P	-h	-0.9024	1.1971	0.2073	275.2	101.2	-	16S	39E
-0016	Oct 28	17:31:00	10677	269	-24925	55	P	-h	0.7313	1.5553	0.4779	325.2	155.7	-	14N	138E
-0015	Apr 23	14:51:21	10672	269	-24919	60	T-	pp	-0.1258	2.6017	1.6519	319.0	211.1	96.3	12S	179W
-0015	Oct 17	17:44:18	10667	269	-24913	65	T+	pp	0.0488	2.8196	1.7183	378.7	235.2	104.6	9N	135E
-0014	Apr 13	07:54:44	10662	269	-24907	70	P	a-	0.6027	1.7266	0.7771	294.0	171.8	-	7S	74W
-0014	Oct 06	18:01:57	10657	269	-24901	75	P	t-	-0.6425	1.7158	0.6431	334.8	175.9	-	4N	132E
-0013	Mar 04	11:32:56	10653	269	-24896	42	N	-a	-1.3268	0.4376	-0.5903	185.6	-	-	6N	126W
-0013	Apr 02	22:47:25	10652	269	-24895	80	N	a-	1.3746	0.3311	-0.6596	157.2	-	-	3S	64E
-0013	Aug 27	13:59:17	10648	269	-24890	47	N	-a	1.3801	0.3150	-0.6637	150.3	-	-	10S	166W
-0013	Sep 26	00:52:03	10647	269	-24889	85	N	a-	-1.3063	0.4681	-0.5456	186.9	-	-	1S	30E
-0012	Feb 21	15:59:25	10643	268	-24884	52	P	-t	-0.6436	1.7176	0.6374	340.3	177.7	-	11N	169E
-0012	Aug 16	05:52:57	10638	268	-24878	57	P	-a	0.6491	1.6421	0.6914	288.5	163.6	-	14S	43W
-0011	Feb 09	15:39:57	10633	268	-24872	62	T+	pp	0.0644	2.7854	1.6948	375.9	234.4	104.2	15N	174E
-0011	Aug 05	22:14:02	10628	268	-24866	67	T-	pp	-0.0657	2.7208	1.7536	325.5	214.4	99.3	18S	72E
-0010	Jan 29	18:01:40	10623	268	-24860	72	P	a-	0.7638	1.4830	0.4304	312.5	146.2	-	19N	138E
-0010	Jul 26	10:28:06	10618	268	-24854	77	P	t-	-0.8467	1.3125	0.2967	292.4	122.0	-	21S	112W
-0010	Dec 20	16:08:12	10614	268	-24849	44	N	-a	-1.3012	0.4613	-0.5203	176.8	-	-	22N	163E
-0009	Jan 19	03:29:35	10614	268	-24848	82	N	a-	1.4085	0.2730	-0.7256	142.0	-	-	22N	4W
-0009	Jun 16	00:54:07	10609	267	-24843	49	N	-t	1.1821	0.7236	-0.3450	247.9	-	-	22S	30E
-0009	Dec 10	07:43:49	10604	267	-24837	54	P	-a	-0.6387	1.6729	0.6990	292.2	164.4	-	22N	72W
-0008	Jun 04	01:58:00	10600	267	-24831	59	T	-t	0.4110	2.1297	1.0785	353.8	212.3	44.8	22S	13E
-0008	Nov 28	21:47:16	10595	267	-24825	64	T+	pp	0.0284	2.8112	1.8006	336.0	217.4	99.9	21N	75E
-0007	May 24	08:36:52	10590	267	-24819	69	T	a-	-0.3759	2.1684	1.1683	332.9	207.1	61.2	21S	87W
-0007	Nov 18	06:00:36	10585	267	-24813	74	P	t-	0.7531	1.5103	0.4425	317.6	148.9	-	20N	49W
-0006	Apr 14	15:02:18	10581	267	-24808	41	N	-a	1.4067	0.2497	-0.6965	130.6	-	-	7S	179E
-0006	May 13	22:11:14	10580	267	-24807	79	N	a-	-1.1028	0.8112	-0.1424	225.9	-	-	19S	69E
-0006	Oct 08	12:15:50	10576	267	-24802	46	N	-t	-1.5679	0.0300	-1.0666	54.1	-	-	4N	142W
-0006	Nov 07	07:11:35	10575	266	-24801	84	N	t-	1.4650	0.2223	-0.8814	145.2	-	-	17N	68W
-0005	Apr 04	07:54:23	10571	266	-24796	51	P	-a	0.7075	1.5393	0.5802	286.9	154.4	-	4S	73W
-0005	Sep 27	14:03:48	10566	266	-24790	56	P	-t	-0.8335	1.3564	0.3012	304.8	125.3	-	0S	168W
-0004	Mar 23	21:16:54	10561	266	-24784	61	T-	pp	-0.0249	2.8167	1.8078	343.3	222.2	102.2	0S	87E

-0004	Sep 15	23:07:28	10556	266	-24778	66	T-	pp	-0.0783	2.7120	1.7165	333.6	216.9	99.2	4S	56E
-0003	Mar 13	03:36:49	10551	266	-24772	71	P	t-	-0.8002	1.4225	0.3574	316.8	138.1	-	3N	8W
-0003	Sep 05	14:02:45	10546	266	-24766	76	P	a-	0.6246	1.6907	0.7326	292.0	167.5	-	7S	167W
-0002	Jan 31	10:39:33	10542	266	-24761	43	N	t-	1.4319	0.2739	-0.8117	158.2	-	-	19N	111W
-0002	Mar 02	04:02:00	10542	266	-24760	81	N	t-	-1.5313	0.0924	-0.9949	94.4	-	-	7N	14W
-0002	Jul 27	21:40:49	10537	265	-24755	48	N	-a	-1.2617	0.5315	-0.4459	192.6	-	-	21S	80E
-0002	Aug 26	06:28:54	10537	265	-24754	86	N	a-	1.3282	0.4030	-0.5613	165.8	-	-	10S	54W
-0001	Jan 20	14:48:13	10533	265	-24749	53	P	-h	0.6810	1.6278	0.5895	315.5	164.2	-	21N	174W
-0001	Jul 17	08:08:54	10528	265	-24743	58	P	-h	-0.5513	1.8614	0.8318	332.2	190.3	-	23S	78W
0000	Jan 10	02:04:22	10523	265	-24737	63	T-	p-	-0.0446	2.7697	1.7823	327.3	213.8	98.8	22N	16E
0000	Jul 05	11:32:48	10518	265	-24731	68	T+	pp	0.2118	2.5035	1.4358	370.0	230.1	93.8	23S	129W
0000	Dec 29	17:27:29	10513	265	-24725	73	P	a-	-0.7105	1.5390	0.5693	284.0	151.2	-	23N	143E